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ABSTRACT

This report was written to inform the educational community of new developments in the area of vocational education. The national concern for vocational education programs and the Vocational Education Acts of 1963 and 1968 as turning points are discussed. The concept of occupational education for all ages, action at the state level, and trends in the curriculum point out specific developments. The guidance and counseling services, and the accreditation, teacher education, and certification problems are outlined. exemplary projects are classified as: (1) career development programs, (2) career guidance and counseling, (3) inner-city projects, (4) rural-oriented projects, (5) cooperative education programs, and (6) projects for disadvantaged youths. Authorizations and appropriations for various sections of the amendments are listed. (GEB)

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Vocational Education: Innovations Revolutionize Career Training

A Publication of the
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Vocational Education: Innovations Revolutionize Career Training

A MATTER OF NATIONAL CONCERN

Not long ago, if you wanted to visit the vocational education classes in a typical American secondary school, you could save some steps by heading directly for the basement. There, in dingy surroundings a few steps away from the school's boiler room, you'd find a man identified by his fellow faculty members as "the shop teacher" struggling to inspire a group of young men to construct things out of wood and metal with hand tools or antiquated power equipment. The students in those basement rooms, inevitably, consisted of the boys rejected from the academic classrooms upstairs as either an uncontrollable discipline problem or a nonlearner.

Literally, as well as figuratively, "Voc Ed" classes were something you went down to. There was an aura of shame attached to being in vocational education, and everybody understood it--the school staff, the parents, and most of all, the students. The physical facilities, and their location in the basement or in converted World War II barracks away out behind the regular school buildings, reinforced these attitudes.

There are still too many places where these attitudes and conditions exist; but things are changing fairly rapidly. The educational institution that isn't doing some exciting new things in vocational education, or at least planning for them, is out of step. The school system that isn't thinking of vocational education as something that is part of its program from kindergarten through postsecondary years is headed for a traumatic future.

"One of the most serious flaws in our educational system has been its ironclad separation of academic and vocational preparation." This was one of the blunt statements made by former U.S. Comr. of Education James E. Allen in an address before the 1970 convention of the National Assn. of Secondary School Principals (NASSP).

"Racial unrest, violence, and the prevalence of unemployment among the young have their roots in

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the inadequacies of our educational system," Allen continued. "...Young people enter the job market without the skills and attitudes employers require. They and millions of others who are underemployed--inadequately prepared high school graduates as well as dropouts--are tragic evidence of failure on our part."

The same sort of thing was being said a few months earlier by Grant Venn, then associate commissioner for adult, vocational, and library programs in the U.S. Office of Education (USOE). "It is intolerable that there is high unemployment among young people at a time when the nation faces the greatest critical shortage of technical manpower in its history," Venn said in an article in the October 1969 issue of Manpower magazine, after noting that nearly a million youngsters drop out of school each year prior to completing high school and that unemployment figures for young people are much higher than the national average. "The nation can no longer tolerate a system of education that excludes those who, for some reason, are not learning well at the moment, or those who do not or cannot aspire to a four-year college education. Neither can it tolerate the loss in human resources nor bear the financial burden of supporting thousands of unemployed persons who lack academic and vocational skills. We must increase the options in our public school system," Venn concluded.

The executive branch is not the only place where strong voices are being heard on behalf of vocational education. Rep. Edith Green (D-Oreg.), also addressing the 1970 NASSP convention, said, "I've gotten pretty cynical about the unmotivated 18-year-old who's about to drop out. My priorities now are in vocational education for job training and in money for the 2-, 3-, and 4-year-olds, especially the disadvantaged." One informed observer pointed out that only 60% of high school students go on to college and that only one-half of these complete college in four years. Mrs. Green also noted that the federal government is still spending $14 on four-year colleges for every $1 it spends on vocational education. "We've sold a whole generation of Americans on the myth that a college degree is the only road to success and happiness. The result is that the schools are full of kids who find their courses 'irrelevant,'" she concluded.

Rep. Carl Perkins (D-Ky.), chairman of the Education and Labor Committee, has expressed concern that federal appropriations for vocational education have not measured up to the authorized funding levels of some of the federal legislation. "It is imperative that we have available high-quality post-secondary, semiprofessional, technical, and skilled occupational training opportunities for millions of youngsters we are not now able to serve," he said.

And Rep. Roman Pucinski (D-Ill.), in a meeting sponsored by the Aerospace Education Foundation, had this to say: "With an anticipated work force of 200 million by the 21st century, this decade truly belongs to the vocational, the career educators." He further stated that "the entire education curriculum should be centered around preparation for the world of work" and that "we should begin by guaranteeing every student a marketable skill before he leaves high school."

Clearly, educators are being told, vocational education is a matter of national concern.

THE TURNING POINT

Voc Ed, or at least manpower training, has long been a matter of concern of the federal government. The Smith-Hughes Vocational Education Act was passed by Congress in 1917, providing federal assistance for vocational agriculture, home economics, and emerging trade and industrial training needs. Three decades later, in 1946, the George-Barden Act, stressing occupational education for industrial employment, became law.

But the real turning point for new directions in occupational education came with the passage of the Vocational Education Act of 1963 and the sweeping Vocational Education Amendments of 1968. The Vocational Education Act of 1963 was significant not only in the dramatic increase of federal assistance funds for vocational education but also in its broadening the definition of vocational education.

The act authorized the training of persons for gainful employment under six broad categories, including business and office occupations not covered by earlier vocational acts, and provided that such training could be offered at both high school and postsecondary levels for any occupation requiring less than a baccalaureate degree. Equally significant, the 1963 Act began to place emphasis on the groups of people needing training, rather than on narrow occupational field training needs.

The Vocational Education Amendments of 1968 went even further, both in their stress on the people needing vocational education and in greatly broadening the definition of vocational education. In addition, the 1968 Amendments set up some rather clear guideposts for the new directions needed in vocational education by earmarking portions of the funding authorizations to require that certain groups of people receive the occupational education they need. Finally, the 1968 Amendments contain a number of requirements for planning and evaluation which must be met by each state before it will be allowed to participate in the federal funds.

The impact of the 1963 and 1968 acts is revealed in some national statistics: Enrollment in vocational education programs nearly doubled--from 4.5 million people in 1964 to more than 8 million in 1968. It is now estimated that 14 million Americans of high school age or older will be enrolled in occupational education by 1975.

The dollar investment has increased proportionately: USOE figures released in 1970 show that the nation's investment in vocational education from local, state, and federal resources more than doubled--from $605 million in 1965 to approximately $1.4 billion in the fiscal year ending June 1969.

Vocational Education Amendments of 1968

"Mandate" is the word often used to summarize the 1968 Amendments. The act plainly states the desired future directions for vocational education in its declaration of purpose, earmarks portions of the authorized funds to place emphasis on the educational needs of special groups of people, and lays down requirements that each state engage in vocational education planning and evaluation as a condition to their participation in federal funds.

The declaration of purpose (Section 101) reads: "It is the purpose of this title to authorize federal grants to states to assist them to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, and to provide part-time employment for youths who need the earnings from such employment to continue their vocational training on a full-time basis, so that persons of all ages in all communities of the state...will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training." (Underscoring added for emphasis by the editor.)

Permanent Program Funding

For so-called permanent Voc Ed programs, Congress authorized a dramatic increase in funds: $355 million for fiscal year 1969; $565 million for 1970; $675 million each for 1971 and 1972; and $565 million for 1973 and each fiscal year thereafter. From the appropriations made under these authorizations, an amount not to exceed $5 million is to be provided each year to the Dept. of Labor to study local, state, regional, and national manpower needs. Also, some funds are to be provided for the operation of the national and state advisory councils on vocational education. The permanent program funds are for distribution to the states on a 50% matching basis with state and local funds, with the further stipulation that nine-tenths of the permanent program funds are to be used for the vocational education of persons of all ages. One-tenth is to be used for permanent programs of research and training in vocational education. Allocation of the permanent program appropriations is based on the number of persons in various age groups needing vocational education and on the per capita income of each state.

Insuring that some groups of people who have been neglected in the past will benefit from vocational programs hereafter, Congress also stipulated the minimum percentages of permanent program funds which each state must devote to programs for these special groups. At least 15% of each state's allocation must be used for programs designed to benefit people who have "handicaps that prevent them from succeeding in the regular vocational education program." A minimum of 15% must be used for postsecondary programs, aimed chiefly at persons who are unemployed for lack of a marketable skill. Finally, at least 10% must be used in programs for people who need special educational assistance because of physical, mental, or emotional handicaps.

The research and training portion of the permanent program funding (as noted earlier, one-tenth of the funding is to be used in this area) allows

the state boards of vocational education discretion over one-half of the allocation, and the U.S. Commissioner of Education discretion over the other half. The state boards may support up to 75% of the costs of state research coordinating units and up to 90% of grants for research projects dealing with the special vocational education needs of youth. These include projects which disseminate the information derived from research or field demonstrations in vocational education. The Commissioner, with the funds which are for use at his discretion, may award 100% grants or contracts to state and local agencies in the areas of vocational and technical education curriculum development and the training and development of vocational education personnel. In addition to the provision for permanent vocational education program funding, the 1968 Amendments authorize funding for specific purposes:

Consumer and Homemaking Education

To support programs designed to prepare young people and adults for the role of homemaker, or to contribute to their employability as homemaker and wage-earner, the act authorizes $35 million for fiscal 1970, and $50 million each for 1971 and 1972. These funds are to be distributed to the states via the population age groups and per capita income formula. They are for distribution on a 50% matching basis, except that the federal portion may total up to 90% for programs in economically depressed and high unemployment areas. At least one-third of the appropriation must be used in such areas.

Cooperative Vocational Education

To support programs under which students alternately attend school and work on a job related to their vocational studies, the act authorizes $35 million for fiscal year 1970, $50 million for 1971, and $75 million for 1972. Distribution to the states is based on their population aged 15 to 19, with no state to receive less than $200,000 per year. The funds may be used to support up to 100% of the cost of coordination of cooperative programs, instruction related to work experience, curriculum materials, special services such as transportation of students, and program evaluation. However, students are to be compensated by the employer for their work and none of the federal funds are to be paid directly to students.

Work-Study Programs for Vocational Education Students

To provide financial assistance to students who are enrolled in full-time vocational training, by providing for their part-time employment by a local education agency or other public institution, the act authorizes $35 million for fiscal year 1970. The distribution to the states is based on their population aged 15 to 20. The funds may be used to support up to 80% of the wages paid to vocational students for up to 15 hours a week of work for the educational agency or public institution. The purpose of this program is to aid vocational students who need income in order to enter or continue full-time vocational studies. The student is allowed to earn up to $45 per month under the work-study program, or up to $60 per month if the school he attends is not within commuting distance of his home.

Exemplary Programs and Projects

In order to "stimulate new ways to create a bridge between school and earning a living for young people who are still in school, who have left school either by graduation or by dropping out, or who are in postsecondary programs of vocational preparation, and to promote cooperation between public education and manpower agencies," the act authorizes $57.5 million for fiscal year 1970 and $75 million each for 1971 and 1972 for development of model or demonstration programs. Allocation is based on each state's population aged 15 to 19. However, half of each state's allocation is awarded at the discretion of the state board of vocational education, and the other half is in the form of grants or contracts issued directly by the U.S. Commissioner of Education. The funds are to be used for 100% support of model programs which help disadvantaged youth, familiarize both elementary and secondary students with career opportunities, provide occupational counseling, improve vocational curriculums, recruit vocational teachers, exchange personnel between schools and other organizations, and provide work experiences for students. It is intended that such programs and projects will be innovative. Grants for such projects can be made to either public or private agencies and organizations, including businesses and industrial firms. No program will be supported with federal funds for longer than three years.

Residential Vocational Schools

To encourage the construction and operation of residential vocational education schools for high school-aged students, the act authorizes three kinds of federal assistance. Under the first, with an authorization of $30 million for fiscal 1970 and $35 million each for 1971 and 1972, the U.S. Commissioner of Education can make grants to state boards of vocational education, colleges, and public educational institutions for the construction and operation of residential vocational schools. The Commissioner must give special consideration to large urban areas with substantial numbers of unemployed dropouts. Under the second provision, for which the authorization is $15 million for fiscal 1970, the states can use their allocation for grants covering up to 90% of the cost of planning, constructing, and operating residential Voc Ed facilities for youths aged 14 to 20. Such facilities must be tuition-free for the students. Again, the stress is on areas with a large number of unemployed dropouts. The third provision, for which the authorization is $10 million each fiscal year, allows the Commissioner to allocate to the states funds to help pay interest costs on loans for construction of residential schools and dormitories for youths aged 14 to 20 enrolled in Voc Ed programs. The grants are to cover the difference in loan costs between the actual interest and what the cost would have been at a 3% rate, on construction loans of up to 40 years.

What the States Must Do To Qualify

Part of the "mandate" of the Vocational Education Amendments of 1968 is that, to participate in any of these federal funds, each state must demonstrate clearly that planning and evaluation are taking place in its programs for vocational education.

Each state wishing to participate must have an advisory council on vocational education appointed by the governor or, in those states with an elected state board of education, by the state board. The council must include one or more representatives from state industrial and economic development agencies; one or more from postsecondary institutions which provide vocational or technical education; a person or persons familiar with the administration of state and local Voc Ed programs who is not directly involved in administration of the programs, comprehensive secondary schools, local school boards, manpower and vocational agencies including the state's Comprehensive Area Manpower Planning System; a person or persons with special knowledge regarding the needs of handicapped people; and a person or persons from the general public who is knowledgeable about the disadvantaged in the state. The council must hold at least one public meeting each year.

The state advisory council is charged with responsibility for:

- Advising the state board of vocational education on matters of policy for administering the state plan for federally assisted Voc Ed.

- Conducting an independent evaluation of the effectiveness of vocational education programs, services, and activities in the state, and publishing and distributing results of the evaluation.

- Submitting an annual evaluation report on the effectiveness of the state's federally assisted Voc Ed programs to the U.S. Commissioner of Education and the National Advisory Council on Vocational Education.

- Consulting with the state board of vocational education on development of annual and long-range state plans for vocational education.

The Commissioner of Education is authorized to set aside 1% of the state's allocation for permanent vocational programs. Not less than $50,000 nor more than $150,000 per state per year may be used for the operation of the state advisory councils.

Finally, to be eligible to participate in the federal funds, each state must submit annually a state plan for Voc Ed. The state plan must include:

- Policies and procedures to be followed in the distribution of funds to local educational agencies in the state.

- An annual program plan which has been prepared in consultation with the state advisory council. The plan should include descriptions and justifications for the activities, programs, and services to be provided with the federal funds during the coming fiscal year.

- A long-range, three- to five-year plan which sets forth the objectives of the state's Voc Ed program and explains the manner and extent to which these objectives will be achieved.

The state plan must be revised and extended each year, must be the subject of a public hearing prior to its submission to the U.S. Commissioner of Education, and must be made "reasonably available to the public."

The National Advisory Council

A National Advisory Council on Vocational Education (NACVE), made up of 21 members appointed by the President, was created under the 1968 Amendments. Its membership must include persons representative of labor and management, of new and emerging occupational fields, of manpower program administration, of local school boards, of training for handicapped people, of postsecondary and adult Voc Ed programs, of the socioeconomically disadvantaged, and of the general public--including specifically, parents and students.

Members of NACVE are appointed for three-year terms, which were staggered in the original appointments so that seven memberships expire each year. The council chairman is selected by the President, and the chairman is responsible for calling meetings of the council not less than four times a year. NACVE is charged with responsibility for advising the U.S. Commissioner of Education concerning the administration and operation of federally assisted vocational education programs, conducting independent evaluations of the programs carried out under the Vocational Education Amendments of 1968 and publishing and distributing the results of its evaluations, and making annual reports of its findings and recommendations (including recommendations for further legislation) to the Secretary of Health, Education, and Welfare for transmittal to Congress.

To enable NACVE to carry out these responsibilities, there is an authorization of $150,000 annually for fiscal years 1970 through 1972.

Telling It As It Is

Under the leadership of Hugh Calkins, a Cleveland attorney who has been NACVE chairman since the appointment of the advisory council in 1969, three reports have been submitted. All three are brief but meaty, and they have in common a penchant for "telling it as it is" and for laying down challenges for dramatic changes in this nation's approach to vocational education.

Intellectual Snobbery

The first report was issued in July of 1969. Beginning with the statements that "the violence that wracks our cities has its roots in unemployment and unequal opportunity" and "racial unrest, violence, and the unemployment of youth have their roots in inadequate education," the report asked why schools cannot prepare all young people to realize their full potential. It answered the question: "The reasons are attitude, program, and money."

"At the very heart of our problem is a national attitude that says vocational education is designed for somebody else's children," NACVE said in a statement which was to be widely repeated. "This attitude is shared by businessmen, labor leaders, administrators, teachers, parents, students. We are all guilty. We have promoted the idea that the only good education is an education capped by four years of college. This idea, transmitted by our values, our aspirations, and our silent support, is snobbish, undemocratic, and a revelation of why schools fail so many students."

Noting that the federal government spends $14 on higher education for each $1 invested in vocational education, and that state expenditures follow the same pattern, NACVE recommended that "the federal government immediately exercise its leadership and allocate more of its funds to cure our country of our national sin of intellectual snobbery."

Regarding program, the Council stated: "Within high schools, the student should have multiple choices. A separate vocational school or a distinct vocational track should be exceptions, not rules.... All students must be allowed to move into and out of vocational-technical and to select mixtures of vocational-technical and academic courses. Students should be released from school to acquire employment experience, and should then be taken back for further education. Students should be able to go to school the year around.... Rural schools must give their students opportunities to train for urban jobs.... Vocational and technical programs should be readily available to most adults.... Changes in the elementary curriculum are also needed. Exploration of the world of work should begin early."

NACVE recommended "that substantial federal funds be allocated to support curriculum development, teacher training, and pilot programs in vocational education.... We challenge state and local governments to throw off old habits and take a hard, fresh look at what they are doing in vocational education. We urge the public to watch carefully, and to demand and support the innovations that work."

Finally, NACVE's first report observed that, while the cost to society for educating young people for employment is less than the cost of remedial training after they have left school, individual school districts find it difficult to budget the higher cost of vocational education.

In this regard, the report concluded that "the reform of American schools the nation so desperately needs will not come about if the federal government continues to invest nearly $4 in remedial manpower programs for each $1 it invests in preventive vocational programs. If the federal government will substantially support the additional initial cost of educating youth for employment, we believe that the financial, personal, and social costs of unemployment can be dramatically reduced."

Misdirected $$

Hard-hitting criticism of federal allocation priorities and a call for fundamental policy and administrative changes were contained in NACVE's second report issued in November 1969.

Again citing the ratio of $4 in federal allocations for remedial manpower training programs to $1 for Voc Ed, the report went on to point out that the manpower expenditures have not resulted in any decrease in unemployment rates in the nation's poverty areas.

"Last year the federal government allocated $1.6 billion in support of recruiting, counseling, educating, training, and job placement efforts for approximately one million men and women who suffered under economic, educa-

tional, or physical handicaps. But as of last October, Labor Dept. statistics show that the unemployment rate in our poverty neighborhoods had shown no over-the-year improvement," NACVE said. The reason for this, the Council concludes, is that the number of people being aided under manpower training programs is just about equaled by the number of school dropouts who flow each year into the unemployment pool without any salable skills.

"The allocation of far more federal dollars to the problem of the pool than to the problem of the flow is wasteful and inefficient," the report said. Its first major recommendation was that the federal government "invest at least as much money in reducing the flow of untrained youth as it invests in reducing the pool of unemployed."

Furthermore, said NACVE, this increased investment in vocational education should be concentrated in "mainstream" educational institutions such as the nation's already existing high schools and postsecondary institutions. And, it added, this increased investment should be in the form of payments to cover just the additional cost of vocational and technical programs in these mainstream institutions.

"Federal legislation now encourages the development of separate programs for the disadvantaged. Such programs say to the disadvantaged that they are second-class citizens who cannot make it in the mainstream.... What the disadvantaged want and need is access to vocational and technical programs for career preparation in the mainstream," NACVE stated.

Regarding its recommendation that federal funds be applied to the difference in cost between vocational education and the existing college preparatory programs in local schools, NACVE observed that separate Voc Ed programs may cost somewhere between $1,500 and $3,000 per student per year, but that "only a fraction of that amount would be needed if the federal government paid only the extra cost of a vocational program for that student in a mainstream secondary or postsecondary school."

Finally, and very bluntly, the Council's second report pleaded for an overhaul of the federal administrative organization "to permit the federal government to exercise leadership in vocational education as well as in manpower training." Taking note that the assistant secretary of labor for manpower is only "two doors removed from the President" while the associate commissioner of education for adult, vocational, and library programs is "five doors removed," the report concluded that "there is no more dramatic example in the federal government of how national objectives are obstructed by a badly designed administrative organization."

The same sort of balance between vocational education and manpower people must also obtain at state and local levels, the Council said. It asked for legislation to require local communities to develop a single coordinated plan for attacking both the pool of unemployed and the flow of untrained youth into the pool. Involved in development of such coordinated plans--on an equal basis--should be city mayors, manpower specialists, school superintendents, the heads of postsecondary career development institutions, and representatives of both professional and nonprofessional occupations in the communities.

The Human Time Bomb

NACVE's third report, issued in July 1970, dealt with what it called "the basic challenge to American education today: Can it equip for effective participation in the life of the country the 20% of the population now excluded because of inadequate educational opportunity?"

Accusing the nation as a whole of drawing back from its mid-sixties commitment to eliminate ignorance and poverty in the United States, the Council observed that "a clock is ticking. The human time bomb that is the disadvantaged, the minority, the poor, is approaching the moment of fracture. Deeply frustrated, untrained, impatient youth have concluded from their observations of the sixties that the only way to create change is through violence."

Four basic steps are recommended to carry out the nation's "historic mandate" to fulfill the individual potential of every person:

1. Schools must recognize that employment is an integral part of education. Every secondary school should be "an employment agency" and should establish a placement office to help obtain jobs for its graduates, and each secondary school must make part-time employment an integral part of its total curriculum. Finally, schools must invest as much in follow-up and counseling of their dropouts as they do for the students who remain in school.

2. Priority must be given to educational programs for the disadvantaged, but without separating the disadvantaged from the educational mainstream.

3. Parents and students must be encouraged to participate in the development of vocational education programs and facilities. Minorities are underrepresented in vocational facilities because they have traditionally been underrepresented in many of the occupations involved, with the result that Voc Ed institutions have "a majority-group image" that is forbidding to the minorities. The answer to this problem is to involve the clientele who can profit the most from vocational programs--parents and students from the disadvantaged groups--in the planning of those programs and their facilities.

4. Residential schools must be established for young people who cannot cope with home or neighborhood situations which "make it impossible for them to learn in a day-school setting."

"By enacting the 1968 Vocational Amendments, Congress declared its intent that a better society, based upon educational opportunity, should be built. Intent, however, even when it is the law of the land, does not alone bring action.

"The disadvantaged of this country have made it clear that they are tired of intentions which are not backed by adequate funds or by a genuine national concern. Eighteen months have gone by since the passage of the Vocational Amendments, and progress has been slow.... The disadvantaged will no longer accept promises," the Council's latest report concluded.

Alphabet Soup

A major problem remaining to be solved is that of how to bring about some master coordination of the big bowl of alphabet soup which emerged from the nation's recent efforts to provide educational opportunities for all. In addition to the many new programs under the Dept. of Health, Education, and Welfare (HEW), the past decade has also seen the spawning of a bewildering array of "war on poverty" manpower training programs under the Dept. of Labor, and the birth of wholly new agencies under the Office of Economic Opportunity (OEO) and the Dept. of Housing and Urban Development (HUD).

"The proliferation of these services and programs is enough to confuse if not horrify many a mayor. The array of acronyms, initials, overlap, and duplication is staggering--and in many cases, self-defeating," declared a recent publication for city mayors.

The solution to this problem will not come easily. Bureaus have been created, and empires have been built. It can be expected that the Depts. of Labor, HUD, and HEW will continue to make cases for their respective programs at appropriations time. Private industry has a growing piece of the action, contracting to provide educational and training programs and making a profit from them. The kinds of power struggles likely to take place at the federal level will be mirrored at state agency and local community levels as well.

As NACVE has indicated, a major element of the problem is the need to see the interconnection of the flow and the pool and to engage in cooperative efforts to close the gap between vocational education and manpower training.

It is not possible to go into detail about all of the manpower programs in this report. However, many of them involve educators and educational institutions. Among manpower programs currently in operation are:

Bureau of Apprenticeship and Training (BAT)--programs under BAT provide apprenticeship training which involves a worker's learning a skilled craft or trade on the job under the guidance of an experienced craftsman. Such training also involves classroom work, often arranged with an educational institution. Apprenticeship programs frequently are conducted by joint apprenticeship committees consisting of three members from management and three from organized labor. BAT is part of the Dept. of Labor.

Neighborhood Youth Corps (NYC)--work experience and training programs for poverty-level youth aged 14 to 22 are provided under NYC. In-school youth receive after-school and summer paid work experiences, and school dropouts are provided full-time work and training programs, usually with educational and local governmental institutions. Another branch of NYC for out-of-school unemployed youth is Work Training in Industry, under which the trainee obtains work experience in private industry as a regular employee of the firm, with the cooperating employer being reimbursed part of the training salary. NYC is under the Dept. of Labor's Manpower Administration.

Public Service Careers (PSC)--a program designed to fill manpower needs which exist in public agencies and private nonprofit institutions and at the same time upgrade underemployed persons. The program helps agencies recruit

and select workers, restructure jobs so that unskilled persons can fill them, and offer skill improvement training so that present employees can move up to more responsible positions. A special area of PSC is the New Careers program designed for unemployed or underemployed persons 22 years of age and up. It provides employment and training in preprofessional jobs which can be the first step in career ladders leading to professional jobs (nurse aides, police aides, teacher aides, and social work assistants, for example). PSC is under the Dept. of Labor's Manpower Administration.

Work Incentive Program (WIN)--for persons aged 16 and up who are already receiving assistance under Aid to Families with Dependent Children (AFDC). This program provides help in obtaining either training or work experience or both. The local welfare agency can require an AFDC recipient to participate in WIN, but the recipient is provided incentive payments during the training period and can receive decreasing incentive payments after entering a job. WIN operates at the local level through the Federal-State Employment Service offices. Existing educational institutions are often used to provide the training services.

Youth Opportunity Centers (YOC)--more than 200 of these centers, located in major metropolitan areas, provide highly personalized counseling, testing, job development, and placement services to disadvantaged youth aged 16 to 21. The YOC is designed to be a focal point in the metropolitan area for all youth services related to employment. They are operated under Federal-State Employment Service offices.

Job Opportunities in the Business Sector (JOBS)--operated by the National Alliance of Businessmen, JOBS focuses on the hiring and training of hard-core unemployed persons by private industry. Cooperating employers are paid the extra costs involved in providing training and special services to the persons hired. JOBS is now in operation in more than 130 cities, under contracts with the Dept. of Labor's Manpower Administration.

Job Corps--four kinds of training centers are operated under this program for out-of-school and out-of-work youth aged 16 to 21: (1) Civilian Conservation Centers for Men, residential centers operated on state and federal lands by the Dept. of Agriculture and the Dept. of the Interior; (2) Large Urban Centers for Men, residential centers operated under Dept. of Labor contracts by business firms and state educational foundations; (3) Women's Job Corps Centers, residential facilities operated under contract by private industry, educational institutions, or social service agencies; and (4) Residential Manpower Centers, which provide training programs on both a residential and nonresidential basis to young people from the local area (some on a coeducational basis) through contracts with private industry, educational institutions, or social service agencies.

Manpower Development Training Act (MDTA)--a broad range of programs is provided under this federal act, and there is cooperative participation by the Dept. of Labor's Manpower Administration, Federal-State Employment Service offices, and the U.S. Office of Education. Designed to train people for jobs in which manpower needs exist or are anticipated, MDTA programs can provide basic education, institutional training in classrooms and vocational labs, pre-apprenticeship training, on-the-job training at a business or in-

dustry, or a combination of institutional and on-the-job training. Programs can be organized on a group basis or by individual referral, and trainees receive financial support during their training period. Emphasis is on the disadvantaged, unemployed, and underemployed. A special MDTA program is the Experimental and Demonstration Program (E & D), under which contracts are made with public or private organizations to test new approaches to the training of hard-core unemployed and underemployed persons. Major emphases in E & D include enlisting private employer support to meet unemployment problems of the disadvantaged and direct involvement of minority groups in organizing and conducting the programs.

Concentrated Employment Program (CEP)--an effort to consolidate available resources of various MDTA programs into a package which can be concentrated on a target area with a large number of seriously disadvantaged people, CEP is not in competition with other manpower programs. A CEP project involves a direct contract with the federal government by a single sponsor, which in turn may subcontract services or components to other public or private agencies. CEP projects can focus on either an urban or rural area, but there must be some indication that the project can substantially improve the economic status of disadvantaged people in the target area. The sponsor can assemble funds which would have been available for small individual programs under, for example, Neighborhood Youth Corps, New Careers, or MDTA classroom or on-the-job training. CEP projects interlock with Model Cities programs in those communities with such programs and maintain very close relationships with the State Employment Service and with any other existing manpower agencies or programs. The sponsoring agencies are often either the local Community Action Agency of the Office of Economic Opportunity or a city government itself.

Moves Toward Coordination

There are some encouraging signs that coordination and consolidation of Voc Ed and manpower are beginning to take place. One effort to unravel the knotty problem of avoiding costly overlapping and duplication of services is the Cooperative Area Manpower Planning System (CAMPS), created in 1967 and designed to provide cooperative planning and action on manpower needs. Eight federal agencies are involved: OEO; the Depts. of Labor, Commerce, Health, Education, and Welfare, Housing and Urban Development, Agriculture, and Interior; and the U.S. Civil Service Commission.

The heart of the system is coordinated planning at the local area level, and more than 400 local CAMPS committees are already in existence and at work. Each local committee includes representatives of the participating agencies, and its task is to develop a blueprint for action which takes into account the specific manpower needs of the local area, available resources and services for meeting those needs, and the order of priorities for attacking the needs.

State-level CAMPS committees review all of the local plans from that state in an effort to further sift out duplications and conflicts, and there are also multi-state regional CAMPS councils. Atop the system is a National Manpower Coordinating Committee, with members from each of the eight federal

agencies. The national committee each year prepares guidelines for the local-state-regional CAMPS committees, listing all programs related to manpower which have been proposed by all eight of the agencies.

A growing number of states are doing some restructuring of their own in efforts to bridge the gap between Voc Ed and manpower programs. In Arizona, for example, the governor combined the state's vocational education advisory council and the manpower advisory council into a single unit called the Human Resources Advisory Council. In Oklahoma, the two councils have a single executive committee and their two executive directors share office space and work cooperatively.

At the local community level, another kind of approach to consolidating at least the manpower programs is the creation of an area Skill Center, as provided for under MDTA funds. Like the Concentrated Employment Program, operation of a Skill Center is done via a federal contract to a local sponsoring agency. The centers are designed to be self-contained units providing entry-level skill training, occupational and personal counseling and guidance, job placement, and needed supportive services (child care, housing, transportation assistance) to disadvantaged unemployed or underemployed persons. To help avoid duplication of staff and facilities, other agencies in the community can "buy in" for some or all of the services offered at the Skill Center; and agencies utilizing MDTA funds are required to give first priority to obtaining training and related services from the Skill Center.

An important innovation in the Skill Center approach is flexibility, in terms of the needs of the disadvantaged person being served. They are designed for open entry and open endedness--the individual can enter Skill Center programs immediately, at any point in time; can cycle through the training programs at his own rate, and recycle as needed; and can enter the job placement process at whatever time he reaches the "breakout" point in an occupational skill. There are already more than 70 of these Skill Centers in operation, and additional ones are being organized.

A Message for Educators

However the crying need for launching a coordinated attack on both the flow and the pool of people without salable skills is finally met, one thing is being said over and over to educators. That message is that the problem is one shared by educators at all levels, from kindergarten through higher education, and that educators had better get involved in finding some solutions.

In its usual blunt language, as part of a position paper on pending comprehensive manpower development legislation, the National Advisory Council on Vocational Education early in 1970 phrased the message to educators this way:

"The sponsors of the pending manpower proposals appear to be motivated by a belief that educators are too often failing to meet their responsibility for preparing the disadvantaged for the world of work. The Advisory Council does not quarrel with this conclusion as a statement of fact. We believe, however, that it is a tragic mistake to draw from the fact the conclusion that the responsibility should be shifted elsewhere.

"Such a shifting of responsibility would discourage and weaken the substantial and growing number of educators who do recognize and meet their responsibility to prepare the disadvantaged for employment. It would encourage and strengthen those who cling to the outmoded idea that the only worthy education is the one capped by a baccalaureate degree. Ultimately... the schools and community colleges must perform the job. Shifting the responsibility to someone else is not the way to produce a responsive educational system."

As this Special Report was going to press, some major studies were under way at the request of the President's Domestic Council to attempt to provide information for a national policy paper on Voc Ed. One series of studies, conducted by HEW and the U.S. Office of Education, is analyzing the current status of Voc Ed programs nationally and looking for options that might do a better job (words such as "strategies," "templates," and "models" are being used in discussions of the studies). A similar series is under way in the Dept. of Labor and the Office of Economic Opportunity to look at current remedial manpower and adult vocational training programs.

It is anticipated that final results of the studies will be brought together and comparisons will be made between comprehensive in-school Voc Ed programs and the manpower training type of programs operated by the Dept. of Labor. There will also undoubtedly be some attention to the subject of interdepartmental cooperation and potential "interfaces" between the two approaches.

Whatever the findings, the studies are at the crux of the major philosophical debate over whether vocational education can best be handled in comprehensive school programs or in specific skill training programs outside of the schools.

The resulting position paper, and national policy developments, will have important implications for educators.

For More Information

Additional information concerning present federal programs under the Vocational Education Amendments of 1968 can be obtained by writing or calling Arthur Lee Hardwick, Associate Commissioner for Adult, Vocational, and Technical Education, U.S. Office of Education, Regional Office Building, Room 5102, 7th and D Sts., S.W., Washington, D.C. 20202. Phone: (202) 962-4981.

Another location where inquiries are handled promptly, or referred to the proper program officer for response, is the Information Office, Bureau of Adult, Vocational, and Technical Education, Room 5056, 7th and D Sts., S.W., Washington, D.C. 20202. Phone: (202) 963-5194.

Educators may obtain complimentary copies of the 1968 Amendments, technically known as Public Law 90-576, by writing to their Congressional representatives.

IT'S FOR EVERYBODY'S CHILDREN

Probably the most important concept emerging in Voc Ed is that occupational education is needed by everyone, and that if schools are to be relevant they must provide preparation for the world of work as an integral part of the curriculum from kindergarten through post-high school years.

Projections of what the world of work is going to look like in the immediate future should be frightening to any school system that is still operating a curriculum designed to prepare people for college while the 60% of their students who are not college-bound are turned loose to "go to work."

In a nation which already has the highest youth unemployment rate in the world, the advancing technology of the United States is going to make it even more difficult for the high school graduate who does not have preparation for a salable skill. By 1975, Bureau of Labor Statistics projections show, the unskilled laborer category of our labor force will fall below 5% of the total. In 1968, there were 3.6 million unskilled laborers in the labor force; in 1980, there will be 3.7 million--virtually no change. For the millions of young people who will be looking for work between now and 1980, there literally will be no room at the bottom.

Equally important is this fact: Despite a projected rapid growth rate in the "professional" occupations, a study of the jobs which will be available in the coming decade indicates only about one in five will require a baccalaureate degree or higher educational preparation. Interestingly, this job distribution analysis indicating 20% will require a college diploma corresponds closely with projections on college degree statistics between now and 1980. According to the 1970-71 edition of the Dept. of Labor's massive Occupational Outlook Handbook, less than 25% of all 22-year-olds in this country presently have college degrees; and in 1980, the percentage of 22-year-olds with degrees will be slightly lower than it is now.

For the young man or woman with a marketable skill, the future is bright. The Handbook projects a 13% increase in the number of blue collar jobs between now and 1980, and a whopping 36% in white collar positions. Put in a slightly different way, the labor force in "service-producing industries" (trade, government, health care, education, transportation, repair and maintenance, finance, insurance, real estate) is expected to grow from 44.2 million people in 1968 to 59.5 million by 1980 for a 35% increase, while the work force in "goods-producing industries" (agriculture, mining, construction, manufacturing) is expected to increase from 27.5 million to 30 million for a 10% increase.

All of these statistics seem to say two things: (1) in order to participate in the world of work in the foreseeable future, every person must acquire specific job skills, and (2) in 80 out of 100 cases, those salable job or professional skills will not be acquired via the college degree route. For those 80, the answer lies in vocational and technical education, either as a part of their formal education through grade 12 or in what some people are beginning to term "nonbaccalaureate specialized occupational collegiate education"--postsecondary technical and semiprofessional training.

In his new book, Man, Education, and Manpower, Grant Venn points out that "probably the greatest problem we have in education today is the belief that a college degree or even a few months of college will automatically be better than any other possible experience. This simply isn't true for everyone. In fact, many of our most able and academically talented are asking if it is true even for them.

"Many of the most exciting options available in this age of technology are in areas where talents other than those needed for college are most applicable. The great need for technologists in the health, social services, education, conservation, recreation, and human service fields permits not only a quick entry into an adult role from high school, or after one or two years of postsecondary education, but also allows for future advanced education if desired. Jobs in the engineering and science fields, which require seven technologists for every one professional, offer great challenge and greater options.... Unfortunately, few of the parents and too few of the counselors in our schools are aware of these careers," says Venn, one of the strong advocates of the mainstream approach to Voc Ed.

"No student should be counseled to go to college unless his studies will lead to a goal set by that student. It does not have to be a career goal, but it must be one personal and relevant to the student, not to his parent or teacher. Our intellectual snobbishness regarding college has damaged many young people and is crippling our public school system," Venn concludes.

Putting It All Together

If, as NACVE and people like Grant Venn contend, Voc Ed must be integrated into all public schools at all levels, is anyone making any moves in this direction? In some of the 50 states, the answer is yes. Here are some examples:

Ohio

Early in 1970, Ohio became the first state in the nation to require every one of its public school districts to plan and offer comprehensive vocational education programs to their students. Under the law--which provides $75 million in matching funds for construction and materials--a school district may provide vocational courses on its own, contract them from another district, or form a joint vocational district with other school systems. Comprehensiveness of offerings is ensured via a provision that a vocational district must have at least 1,500 students in grades 9-12 and must offer no less than 12 vocational programs and 20 classes.

Ohio's required state plan further indicates the seriousness of its intentions in Voc Ed. By 1975, the plan states, Ohio will: (1) have 40% of all 11th and 12th graders enrolled in vocational education programs; (2) have 25% of all 9th- through 12th-grade girls taking vocational home economics consumer and homemaking education; (3) have 75% of all disadvantaged and 50% of all handicapped 11th and 12th graders in vocational programs; (4) establish four residential schools serving 2,000 disadvantaged and handicapped young people; (5) expand the state's Work Orientation Program for kindergarten through sixth grade so that 75% of all K-6 students will be receiving the program; (6) increase its Career Orientation Program to reach 75% of all Ohio 7th and 8th graders; (7) expand the Career Exploration Program to reach 75% of the students in grades 9 and 10; and (8) in addition to improving and expanding existing occupational education programs, place special emphasis on expansion and development of programs in food processing, resource conservation, forestry, wildlife management, airplane mechanics, occupational therapy, communications technology, office reproduction services, entry data processing, advertising, supermarket management, petroleum services, mine machinery mechanics, geriatrics nursing, psychiatric aide programs, and surgical technology.

Finally, the plan notes that funds have been budgeted for each vocational service to help any local agency establish a shop or laboratory in any instructional program not presently offered in Ohio, thus encouraging pilot projects which can serve to introduce new areas of training to the state.

As just one example of the impact of Ohio's mandate, Dayton Public Schools' weekly publication, Schoolday, said in the lead story of its first 1970-71 issue that "for the first time in the history of Dayton schools, teachers and students return this week to classrooms which offer job preparation in every high school." The number of job preparation classes nearly doubled from the previous school year--127 compared with 72--and they will provide opportunities for more than a fourth of the city's high schoolers. Three general Voc Ed areas are available to Dayton students: Occupational Work Experience, offering shop experiences leading to industrial employment; Distributive Education, providing lab training in salesmanship, accounting, and advertising for sales occupations; and Business Office Education, with lab experiences simulating office work in typing, bookkeeping, and stenography. With 1970-71 as the second year, Dayton has a five-year goal to extend job preparation opportunities to every high school student in the city.

For further information contact Byrl R. Shoemaker, Ohio Director of Vocational Education, State Dept. of Education, 612 State Office Building, Columbus, Ohio 43215.

California

This populous state, which has long relied on its more than 750 public high schools and 100 community colleges to provide Voc Ed in comprehensive rather than segregated settings, is giving job-oriented education to more than a million young people and adults during 1970-71. While admitting that a lack of occupational information in elementary schools is a major problem still needing attack, California is moving rapidly to make Voc Ed an integral

part of its secondary and postsecondary systems. Among the state's goals for 1970-71 are to provide 200,000 people with "job-ready skills and knowledge that will make them available for immediate employment in the existing labor market," to provide another 200,000 already employed adults with skill upgrading, and to make "relevant, decision-making skills needed to cope successfully with contemporary consumer and homemaking problems" available to another 160,000 young people and adults.

In 1967, California enacted legislation permitting community colleges to accept 11th and 12th graders on a part-time basis, and to count such students in their average daily attendance figures for state funding. Several thousand high school students currently take advantage of this opportunity to enroll in community college-level Voc Ed programs. Further articulation is being provided through a new Joint Committee on Vocational Education, made up of representatives from the State Board of Education and the State Community College Board of Governors.

A commitment to move toward occupational education for all students is reflected in the system for allocation of federal Voc Ed funds begun in California in 1969-70, and apparently unique in the nation. Instead of distributing funds on the basis of project submissions, the California plan is to offer every school district in the state an entitlement based on each district's secondary and postsecondary attendance, relative wealth, local effort, and level of expenditures on vocational education. Each district is forced to make some kind of commitment as to whether it wants to participate fully, partially, or not at all in a Voc Ed program in order to be granted all or part of its entitlement. Because of requirements built into the plan, every California district currently receiving vocational funds has developed a districtwide and programwide five-year plan covering occupational preparation programs and services. A State Dept. of Education publication observes that the effect of this approach has been to give local visibility to unmet needs for occupational preparation, as well as to those training needs that are being met with operating programs.

For further information, contact Wesley P. Smith, California Director of Vocational Education, 721 Capitol Mall, Sacramento, Calif. 95814.

Georgia

Already doing a more-than-creditable job in Voc Ed, Georgia is now embarked on a project which has as its goal nothing less than a statewide vocational education program to provide a "development" approach to all students from junior high through the postsecondary technical-vocational schools. The program is being designed so that "students at each step in the career development process can understand the options available at their next decision point," according to the State Division of Vocational Education's annual report for fiscal 1970. To accomplish all of this, Georgia has as a major thrust the merging of vocational and academic subjects at all levels so as to provide "meaningful experiences for students" in all of their classes.

In the fall of 1970, Georgia already had 30% of its 7th through 9th graders enrolled in exploratory and prevocational programs of two or more

years in length; and more than 30% of all students in grades 10 to 12 were being provided with programs containing at least five units of Voc Ed. A network of 25 postsecondary technical-vocational institutions serves more than 16,000 full-time and 64,000 part-time enrollees in programs stressing trade and industrial, office education, technical, and health fields; and 21% of the state's secondary students enter postsecondary Voc Ed programs.

During 1970-71, Georgia established another 55 programs in its innovative junior high Program of Education and Career Exploration (PECE), bringing enrollments in this career-orientation and actual work experience curriculum to more than 13,000. The goal is to have 36,000 junior high youngsters from 190 school districts in PECE by 1974-75.

Other Georgia projects for 1970-71: 40 expanded secondary trade and industrial programs to bring enrollments in this area to 8,300 high school students; development and dissemination of curriculum guides for career exploration in grades 7 to 9, for prevocational industrial arts, occupational home economics, agriculture, business, and distributive education for grades 7 to 9, and for vocationally oriented math, science, and communication skills programs; and the carrying out of a professional development program to provide preservice and inservice education on the integration of academic and vocational programs to educators from all levels--superintendents, principals, counselors, vocational and academic secondary teachers, and elementary teachers.

Perhaps pointing to further developments in the near future, the 1970 report of the Georgia Advisory Council on Vocational Education (entitled "Vocational Education in Action") contains significant recommendations. It urges the state to provide allocations above the minimum foundation formula to hire more exploratory and prevocational junior high teachers so that at least two years of prevocational experiences can be given to 80% of all 7th through 9th graders, and further recommends that such teachers be put on year-round contracts so they can coordinate extended work experiences for junior high students during the summer. It advises the state to provide up to 80% of construction costs for additional area vocational high schools to meet a goal of having such facilities available to every Georgia secondary student within five years. It asks the state to create a revolving student loan fund large enough so that 25% of all postsecondary area technical-vocational school students can participate. It urges all local school districts to see to it that teachers in all subjects relate their instruction to occupations. Finally, it recommends that the local school districts be held accountable to reduce dropout rates in order to continue to receive any supplementary Voc Ed funds above the minimum foundation program allocations.

For further information, contact James D. Cargill, Executive Secretary, Georgia Advisory Council on Vocational Education, 303 State Office Building, Atlanta, Ga. 30334; or George W. Mulling, Director of Vocational Education, Georgia Dept. of Education, State Office Building, Atlanta, Ga. 30334.

Wisconsin

This state, which proudly claims credit as the first in the nation to establish a vocational and adult education system (in 1911), is pushing hard

toward a goal of having Voc Ed opportunities available to every citizen of Wisconsin as part of the public education system. Even before the impetus of the 1963 and 1968 federal legislation, Wisconsin was demonstrating a strong commitment to postsecondary vocational education. It has for many years maintained a State Board of Vocational, Technical, and Adult Education, distinct from the State Board of Education but working closely with it. In 1961, legislation required every Wisconsin town of over 5,000 population (with a few exceptions) to establish a local vocational and adult education board whose membership would include public school administrators and lay citizens.

Four years later, the legislature passed a law requiring the development of a network of postsecondary Vocational, Technical, and Adult Education (VTA) Districts designed so that every area of the state would be included by July 1, 1970. Under a master plan developed by the state vocational board and the Coordinating Committee for Higher Education, 18 districts with 63 postsecondary institutions were in operation by the deadline. Guidelines specified that each district should have, throughout the 1970's and 1980's, a population of at least 187,000, equalized property valuations of at least $450 million, no less than 3,000 high school graduates annually, and a minimum of 760 to 780 full-time technical-vocational students each year. Each district is to contain at least one institution capable of offering two-year full-time programs, one- to two-year vocational programs, related instruction for apprenticeship training programs, and part-time evening occupational education.

In 1970, Wisconsin's compulsory attendance law was modified to provide that, in public school districts served by a vocational-technical school, attendance is compulsory to age 18 (in other districts, it remains at 16). Already affected by the new law are 36 Wisconsin districts with enrollments of nearly half a million students. The law provides that public school districts may contract with the VTA districts to provide instruction meeting high school graduation standards to compulsory attendance students aged 16 to 18. The school district may continue to count these students as theirs for state fund distribution purposes, and the state will provide additional funds for transportation of such students to the VTA institution. Effect of this law, as noted in a memo to public school superintendents from State School Supt. William C. Kahl, is to place "greater responsibility for the education of all youth through the age of 18 on the comprehensive high school."

Wisconsin's VTA system presently includes 35 schools (some of the original 63 were consolidated under the 18-district plan): three technical colleges (one of these, the Milwaukee Area Technical College, claims to be the largest school of its kind in the world), 13 postsecondary technical institutes, and 20 postsecondary technical and vocational schools. The tremendous spectrum of vocational fields covered by these schools is offered tuition-free to district residents, and there is provision for districts to pay educational costs for their residents who attend school in another district. The state has a comprehensive system of student financial aid, including state loans of up to $1,500, Honor Scholarships, Leadership Scholarships, Indian Scholarships, etc. Minors are eligible for the student loans.

For further information, contact C. L. Greiber, State Director, Wisconsin Board of Vocational, Technical, and Adult Education, 137 E. Wilson St., Madison, Wis. 53703.

ACTION AT THE STATE LEVEL

Both progress and problems in Voc Ed are catalogued in the 50 massive state plans required under the 1968 Amendments and in the state advisory councils' annual reports and evaluations.

Some of the state plans (which are divided into three parts, I--Administrative Provisions, II--Long-Range Program Plan Provisions, and III--Annual Program Plans for the current fiscal year) are dull exercises in grantsmanship, following the federal outline in plodding detail and adding a few descriptive passages made up of vague generalities, according to knowledgeable observers. Others, even amid the required statistical analysis and endless charts, are credited with containing a measure of enthusiasm and specific goals and plans of action for trying to attain them.

Likewise, the state advisory council reports and evaluations run a complete gamut from thorough analyses of progress and unmet needs in Voc Ed to routine generalities indicating a cursory approach to the evaluation mission. Several of the state council reports mirror the frank and outspoken approach taken by NACVE, and one of their targets in several cases was the format of the state plans.

"The state plan for vocational education is lengthy, obtuse, cumbersome, and difficult to understand," was the blunt reaction of the Kansas advisory council.

"Activities in the areas of postsecondary and adult education, needs in elementary vocational education, special needs of the handicapped, disadvantaged, etc., are reported rather than incorporated into a coordinated program of action," the Delaware council observed. The council went on to list several examples of a lack of specificity in stated objectives in the state report, including such samples as "additional programs for the mentally retarded" and "added emphasis in the field of health occupations, trades and industries, agriculture and women's occupations, particularly for the disadvantaged, both urban and rural."

The North Carolina advisory council complained of the lack of organization in the state plan to show goals, objectives, and priorities in an interrelated fashion, and urged the state department of education to show these interrelationships in a separate document of its own if the state plan format is such that it cannot be done there.

The picture which emerges from an examination of these mountains of paper is that all of the states are trying to improve occupational education

opportunities for their citizens, but that they begin at shockingly different levels of development and that some are trying much harder than others.

Where the Action Is

In addition to the four states mentioned earlier, many others are moving quickly to carry out detailed plans of action for improvement in Voc Ed. Some of them are:

Mississippi

Backed up by an "unprecedented" increase in state Voc Ed funds from $5.18 million in fiscal 1970 to $7.8 million in fiscal 1971, Mississippi is shooting for a goal of "ready access to excellent vocational and technical training of the kind and scope to meet the needs for entering the labor market" for a large majority of its total population by 1975. An early leader in providing a system of public junior colleges (in 1928), Mississippi provides a broad range of vocational programs in its 17 junior colleges and three vocational-technical centers at the postsecondary level. Nearly 40% of the state's secondary students enter Voc Ed programs in these institutions.

Also working vigorously on construction of secondary-level vocational facilities within easy reach of nearly every school district in the state, Mississippi already has 11 such area schools completed, 18 more being built, and plans for adding another 27 between 1972 and 1975. A concern for doing something about the image of occupational education is also evident. Mississippi is one of a small handful of states reporting a full-time public relations staffer in its State Division of Vocational Education.

For further information, contact A. P. Fatherree, Mississippi State Director of Vocational and Technical Education, State Dept. of Education, P.O. Box 771, Jackson, Miss. 39205.

Connecticut

This highly industrialized state, which boasts of having more schools per square mile than any other state (47 colleges and universities, 400 nonpublic schools, and 1,085 public schools), also possesses a network of vocational and technical schools so extensive that no citizen in the state is more than 20 miles from one. Included in the system are 15 secondary-level regional vocational-technical schools, four state technical colleges, and seven community colleges offering vocational programs.

More than 100,000 people are currently enrolled in Voc Ed programs in Connecticut--half of them at the secondary level and the remainder in postsecondary and adult programs.

The Connecticut advisory council report commends the state department for the positive steps taken to involve local school administrators in joint planning of occupational training and counseling programs.

A new 32-page brochure, "Vocational Education in Connecticut," is one of the best of its kind. A well written and comprehensive description of the Voc Ed programs available to citizens of the state, the brochure features dramatic full-color action photos calculated to dispel any second-class images about occupational education.

For further information, contact Joseph F. Murphy, Associate Commissioner, Division of Vocational Education, Connecticut State Dept. of Education, Box 2219, Hartford, Conn. 06115.

Pennsylvania

As might be expected in a state with many industrial urban centers, Pennsylvania is able to offer some spectacular Voc Ed statistics. There are more than 3,600 different vocational programs in operation in the state's 500-plus high schools and 57 area vocational-technical schools. Among these programs are 1,300 in business education, some 1,100 in trade and industrial areas, and more than 500 in agriculture. Every public high school in the state offers its students business education programs.

Pennsylvania's total of 350,000-plus enrollees in some vocational education program (250,000 at the high school level) is topped only by California (over one million), New York (more than 700,000), and Texas (well over half a million).

For further information, contact the Pennsylvania Bureau of Vocational, Technical and Continuing Education, P.O. Box 911, Harrisburg, Pa. 17126.

Florida

This state leaves no doubt about the seriousness of its intentions in Voc Ed. In the 1970-71 school year, 42% of all secondary students in the state are enrolled in the vocational programs offered by 523 of Florida's public schools. Among the statistics contained in the state plan is one showing that more than 10,000 employers are currently engaged in 598 cooperative vocational education programs with Florida's public schools.

At the postsecondary level, Florida is operating 51 area technical-vocational schools and 27 junior or community colleges (12 of which have been designated area vocational schools). These area centers are within commuting distance, 30 miles, of 90% of the state's entire population.

Secondary curriculum improvements being carried out during fiscal 1971 include: shifting basic agricultural education down to grades 9-10 and developing agriculture-related occupational clusters for grades 11-12 (machinery servicing, forestry, dairy processing and marketing, agricultural supplies and sales); expanding cooperative business education and vocational office education program enrollments, with additional stress on data processing skills; moving many distributive education programs down from grade 12 and developing two- and three-year sequences in distributive education; adding industrial education programs in masonry, carpentry, auto body, air condi-

tioning, heavy equipment operation, diesel mechanics, commercial vehicle driving, and electrical wiring; and expanding home economics programs, including initiation of a cooperative education structure leading to gainful employment at 20 secondary schools.

Florida can also take credit for one of the most readable and innovative state advisory council reports for 1970. Entitled "Vocational-Technical Education in Human Resource Development in Florida: A Statewide Evaluation," the 375-page document is divided into two parts. The first is the report and recommendations of the State Advisory Council on Vocational and Technical Education required by USOE. The second section is the work of a special study group of the Dept. of Educational Administration at Florida State U., which was contracted by the Advisory Council to carry out a unique approach to Voc Ed evaluation in the state.

For the report, 14 experts conducted independent research studies into various aspects of vocational education in Florida. The results are some fascinating, innovation-oriented reports and recommendations. Among the report titles: "Factors Affecting Teacher Innovativeness and the Diffusion of an Educational Innovation," "A Work-Related Educational Center for Potential Dropouts and the Disadvantaged," "An Exploratory Approach to Pre-Vocational Education at the Junior High School Level," "Factors Affecting Participation of Target Groups in Vocational Training Programs," "A Cost-Benefit Analysis of One Vocational Course in 'A' County, Florida," and "Management Information System for Vocational-Technical and Adult Education in Florida."

For further information, contact Carl W. Proehl, Director of Vocational, Technical and Adult Education, Florida Dept. of Education, Tallahassee, Fla. 32304; or Bruce Howell, Executive Secretary, Florida State Advisory Council on Vocational and Technical Education, Room 254, Knott Building, Tallahassee, Fla. 32304.

The Other End of the Spectrum

While many states report sizable jumps in their funding of Voc Ed and show the beginnings of a genuine commitment to the concept that occupational education is for everybody, others are by their own admission just barely getting under way.

A sampling of the state plans and advisory council reports shows how far some states have to go in vocational education, often with very limited financial resources:

Montana

Typical of the plight of sparsely populated states, Montana's situation is summarized in the opening paragraph of its advisory council's first report dated September 1970: "Due to many circumstances, some of which are beyond the control of the state, Montana is and has been late in the development of a statewide vocational education program. Among the factors delaying this development are the sparsity of population, an inadequate tax base to prop-

erly fund the programs needed, lack of a diversified industrial pattern for potential employment opportunities, restrictions imposed by past legislation, and a reluctance on the part of all to give vocational education its due consideration in the total educational program for Montana."

The Montana council cites the need for a policy statement on Voc Ed from the State Board of Education, for a requirement that local school districts develop information relative to the needs of vocational education in their communities, for immediate improvement in teacher preparation methods and requirements to meet the shortage of Voc Ed teachers, for development of a management information system which is qualitative as well as quantitative regarding existing programs, for strong guidelines to provide occupational education for the disadvantaged and handicapped, and for a statewide public information effort on behalf of vocational education.

Along with several other state councils, the Montana group pointed out some shortcomings of the federal funding legislation. These include a lack of the kind of help needed by states with large geographic areas and sparse populations, a stress on secondary and postsecondary programs and relative silence on presecondary occupational education needs, and the inevitable lateness in issuance of both program guidelines and the federal funds for each fiscal year.

For further information, contact the Montana State Dept. of Education, Helena, Mont. 59601.

South Dakota

The 1969 state plan included information indicating that, of South Dakota's 208 secondary schools, four area vocational schools, and one college with Voc Ed programs, only nine schools offered five or more occupational programs. Urban secondary students enrolled in vocational education totaled only slightly over 2%, and fewer than 20% of rural secondary students were in vocational programs. The total number of handicapped people in Voc Ed programs in the entire state was 39 (6/1000 of 1% of the estimated number of handicapped persons in South Dakota).

Although still faced with a long way to go, South Dakota can point to some fast improvement. The current state plan shows that the goal to raise the number of handicapped being served from 39 to 119 in 1969-70 was far e: eded--365 such people benefited from vocational programs. Another goal, to have 186 Voc Ed instructional programs operating in the state's secondary schools, was dramatically surpassed to a total of 316. During 1969-70, nearly 13,000 of South Dakota's 50,000-plus secondary students were enrolled in some vocational education. However, 10,000 of them were in either vocational agriculture or home economics; only 655 were in office education, and only 882 in all of the trade and industrial areas.

An observation made by South Dakota's advisory council (and by those of several other states) was that the state lacked "a conscious program of public information and public relations that would generate and perpetuate genuine public understanding and support for area technical-vocational pro-

grams." In South Dakota, this criticism got a prompt response from the State Dept. of Education in the form of an attractive brochure and a mass-distribution leaflet describing all of the programs available in the state.

For further information, contact E. B. Oleson, Director, Division of Vocational-Technical Education, South Dakota Dept. of Education, Pierre, S. Dak. 57501.

Alaska

This unique state, in its report, frankly admits it is at the bare beginning stage in development of a Voc Ed program. Alaska has only seven schools offering five or more occupational areas, and notes that "we are only scratching the surface of the disadvantaged, and to date have nothing particularly for handicapped persons." The report finds a need for 30,000 additional workers in the industrial area in Alaska, compared with a present capability to train 2,600.

New Hampshire

While observing that most secondary schools in the state have some Voc Ed, if homemaking education is included, the New Hampshire state report indicates there is no school in the state offering all six of the general vocational categories (agriculture, distribution, health occupations, home economics, office occupations, and trade and industrial). Its secondary schools increased from no "wage-earning programs" in 1963 to only five in 1969. The report concludes that "a study of the population distribution throughout the state reveals that vocational education offerings are not available to the majority of high school students."

The New Hampshire state advisory council, in its list of recommendations, asked that (1) the state Division of Vocational Education hire "a full-time qualified director of public information to change the attitude of second-class citizenry held toward Vocational-Technical Education," and that (2) all school principals, counselors, and school superintendents in the state be informed of the advisory council report and that a copy of the report be "placed in the hands of each and every one no later than Nov. 30, 1970."

Maine

The 1971 state plan contains the information that, while 36% of Maine's secondary students are in some vocational education program, only 3/100 of 1% of its secondary students enter postsecondary vocational education. The advisory council reports that, in 80% of the secondary schools, there are no more than two vocational areas and that those two are usually office education and home economics, resulting in a severe shortage of Voc Ed choices for boys.

All of Maine's 11 regional secondary-level technical-vocational centers were operating at less than their capacity. The advisory council report

states that "some school officials...do not encourage their students' attendance at a regional center, either from a desire to retain the students in the local school or to avoid tuition payments to the center, or for other reasons."

One of Maine's 1971 state plan recommendations is that a mobile team of qualified persons be added to the Bureau of Vocational Education to provide vocational guidance in cooperation with high school counselors and that high school participation in such a program be made mandatory by the State Board of Education.

For further information, contact the Bureau of Vocational Education, Maine State Dept. of Education, Education Building, Augusta, Maine 04330.

What's Happening?

Even in those states which begin far behind some of the leaders, there is no question about the impact created by the recent federal Voc Ed acts. The simple requirement for a long- and a short-range plan is forcing every state at least to take a look at what it is now doing and at what it should be setting as goals for the future. The requirement for an independent advisory council annual report and evaluation is resulting in some recommendations which tell it without pulling punches, and which indicate a serious commitment by somebody to work for rapid improvement in vocational education.

The Kansas Advisory Council report for 1970, after detailing how far the state still has to go and making such observations as "a high percentage of the high schools do not have any vocational education," included a statement about Kansas which may sum up what's happening throughout the nation: "There is a strong indication of desire to stop studying the situation and to launch into an action program to improve the extent and quality of vocational education."

TRENDS IN THE VOCATIONAL CURRICULUM

Most of the experts agree that, if the goal of providing career education for all students is to be met, some dramatic changes will have to be made in the total curriculum of America's public schools. Although Voc Ed authorities believe this is taking place with agonizingly deliberate speed, plans for some of this restructuring have been developed, and some of it is happening. Several trends are evident.

One major trend, based on the concept that career or occupational choice is a lifelong developmental process that begins very early, is to master plan a K-14 curriculum which integrates Voc Ed in its broad definition into the entire public education system. Another new direction is to think of occupational education in terms of "career clusters" rather than a collection of narrowly defined training programs for specific jobs.

Equally important is a trend toward doing what American educators have talked about for a long time--making the total community and its many resources part of the educational process. The increasingly rapid growth of cooperative education, in which the student spends part of his day in school classrooms and part at a business or industrial location where he receives supervised job training, is evidence of this trend.

Finally, there appears to be a growing awareness of the need to meet rapidly occurring technological and societal changes with equally rapid and continuous changes in Voc Ed programs, so as to be able to prepare interested students for entry into newly emerging occupations.

Developmental Curriculums

Several models exist for the career development approach to the total curriculum. While specific terms and program titles differ slightly, the general pattern is to provide occupational information and develop concepts about the world of work in grades K-6, occupational orientation and exploration (increasingly on a "hands-on" basis) in grades 7-9, and career preparation from grades 10 through postsecondary.

Ohio, in its master design entitled "Educational Programs To Provide an Employable Citizen," proposes that all public school students follow a common integrated curriculum for the first 8 to 10 years. In K-6 all students receive "world of work" education; in grades 7-8 "career orientation" is provided; and in grades 9-10 students continue with "career exploration" in the regular curriculum or move into an "occupational work adjustment"

program designed for dropout-prone young people. Several options--some leading directly to a job and others to postsecondary education at either the technology or baccalaureate levels--are available in grades 11-12. These include (1) college preparatory, leading to a college degree program and a career at the professional level; (2) Voc Ed, with heavy stress on cooperative school-work programs, leading directly to a job or to "technical education" at a postsecondary institution; (3) "occupational work experience" programs for the dropout-prone who have probably been in the occupational work adjustment program earlier, which couple special instructional programs with on-the-job training in appropriate businesses and industry; and (4) "occupation laboratories," in which disadvantaged youth can become work-oriented through participation in a light industry operation conducted in the school, hopefully then to move over to the occupational work experience program.

Wyoming, in a state department publication entitled "A Comprehensive Occupational Education Program," suggests a sequence of "Attitudes--World of Work" for grades K-6, "Career Orientation" at grades 7-8, "Career Exploration" for grades 9-10, and "Career Preparation" at grades 11-12. The last two years lead either directly to the world of work, or to a college or university education, or to a comprehensive community college where the options include "career preparation in career clusters" for two years, or "manpower development adult and continuing education" leading to a job, or "academic transfer programs" leading back into college or university degree programs.

The Cluster Approach

Many schools are using the "cluster" framework for Voc Ed curriculum development. The concept involves broadening vocational course offerings so as to include several related occupational areas in one program, rather than designing a different program for each specific job. The suggested clusters vary from one geographic location to another, depending upon the occupations most prevalent in a particular location.

Oregon's State Dept. of Education is actively promoting the cluster concept in a colorful brochure being distributed to the state's educators, which invites them to submit cluster program proposals. To assist local districts, the department provides a "Guide to Structure and Articulation of Occupational Education Programs." Eleven clusters are suggested as being particularly appropriate, since the occupations within them involve 406,000 people in Oregon and another 171,000 will be needed to fill job openings by 1975. The occupational clusters suggested are mechanical and repair, general clerical, basic marketing, agricultural, food service, construction, secretarial, metal working, bookkeeping and accounting, health, and electrical.

For further information, contact the Director of Career Education, Oregon State Dept. of Education, 942 Lancaster Dr., N.E., Salem, Oreg. 97310.

Wyoming, in the state department publication mentioned earlier, proposes 11 clusters for its educators: construction, metal processing, hospitality, graphic communication, transportation service and repair, distribution, agricultural production and related occupations, electricity-electronics, health, office, and family, community, and social service.

Georgia is also using the cluster concept and is building it into the curriculum at both high school and postsecondary levels. Job entry task and equipment lists have been developed for five clusters, and all area vocational high schools are being constructed to accommodate the concept. The state sponsored a workshop to develop related curriculum guides for English, math, and science, so as to interlock them with developing Voc Ed clusters.

Education-Industry Partnerships

Cooperation between vocational educators and business and industry is nothing new. Voc Ed people virtually "invented" the use of lay advisory committees, and have long made use of their expertise to obtain advice in curriculum development and updating, vocational equipment and facilities specifications, and placement of graduates.

Cooperative education has existed for years in the form of Distributive Education, Diversified Occupations, Industrial Cooperative Training, and Cooperative Office Education. Creative teachers at all grade levels have been using industry-business field trips and community resource people as guest lecturers for a long time.

However, if relevant occupational education is to be provided to every student, the depth and breadth of the education-business-industry partnership need to increase dramatically. Some of this is happening, sometimes with educators making the first move and just as often with business or industrial leaders taking the initiative.

Industry-Education Councils have been created in many locations as the formal vehicle for cooperative efforts. In some places there are plans to put education and industry under the same roof with construction of joint-use buildings.

Cooperative education has several obvious advantages. The student learns under actual job conditions so that his instruction is as relevant and realistic as possible. It often leads to classroom instruction that has been modified to make it relate more directly to occupational needs. Frequently, it has a built-in placement feature, with the student going on to full employment after his cooperative training. For the economically disadvantaged

Planning a Seminar?

A guide for planning and carrying out successful education-industry seminars to consider cooperative education programs for the disadvantaged has been published by the U.S. Office of Education as No. 10 in its PREP Series.

Entitled "Seminar on Preparing the Disadvantaged for Jobs: A Planning Handbook," the guide gives hints on how to organize such a seminar, including a calendar of activities needed prior to and during the event. It is available through state departments of education.

student, it affords the opportunity to earn a training-level salary and still remain in school. (As one example of the impact of such salaries, students in Philadelphia's public high schools earned more than $3.8 million during 1969-70 in four school-work programs--Distributive Education, Cooperative Office Education, Work Experience Education, and Cooperative Technical Education. With median hourly rates of $1.70, the 3,965 students averaged $960 each for the year. Nearly 1,500 employers cooperated, encouraged by the system's job development specialists who visit employers in every area of the city.)

There are also problems, of course. Schools have to work out such things as class schedules, graduation credits, transportation, and adequate coordinator staffing. The cooperating business has to accept responsibility for supervising and teaching the student, and also accept the fact that the student's production will not be equal to that of a fully trained worker. In brief, cooperative education requires genuine commitment and active support.

Places where schools and industry are getting together this kind of joint commitment and support are increasing. Samples of the best are contained in a U.S. Office of Education PREP (Putting Research into Educational Practice) packet. The packet, No. 9 in the PREP series produced by USOE's National Center for Educational Research and Development (NCERD), reports the findings of a project undertaken for NCERD by the U. of Tennessee. The project was a national survey of cooperative school-industry programs designed to serve disadvantaged students. The packet contains brief descriptions of 61 exemplary school-industry programs plus detailed descriptions of 15 considered outstanding. Also included in the PREP package is a list of selected ERIC (Educational Resources Information Center) documents available on the subject. Here are some of the programs described:

- Chrysler-Northwestern Program. Following the 1967 civil disturbance in Detroit, the Chrysler Corp. volunteered to "adopt" the city's predominately Negro Northwestern High School. Early in 1968, Chrysler renovated a wing of the school and established the Chrysler Action Center, a placement office where testing and interviewing were conducted by industry personnel. Later, the auto company provided office and data processing equipment to update the school's office education labs, and established a well equipped auto mechanics training facility. Other facets of the program are a "secretary for a day" plan under which students spend a day on the job at Chrysler; creative teaching grants of $300 to Northwestern teachers who want to develop new programs; a Chrysler-financed inservice program for Northwestern teachers, in which Wayne State U. reading specialists provide instruction on how to teach reading in all subject area classes; and Project 75, in which 75 Northwestern students are matched with 25 Chrysler sponsors for extracurricular activities such as bowling, sewing, ping-pong, and chess.

  For further information, contact the Principal, Northwestern High School, 6300 Grand River, Detroit, Mich. 48208; or Administrator, Program of Assistance to Public Schools, Chrysler Institute, 341 Massachusetts Ave., Highland Park, Mich. 48213.

- Philadelphia's BEEP. Philadelphia's public schools have cooperative work-study programs with about 20 employers under the collective term,

Business Experience and Education Program (BEEP). One of the participants is Smith, Kline & French Laboratories, a pharmaceutical producer. Their participation is unique in that, among the 20 students they accept, 17 different job titles are involved. Some of the job titles--printing trainee, purchasing trainee, apprentice draftsman, marketing research clerk--were created by the company especially for the training program. Students attend school from 8 a.m. to 2 p.m., and then are paid at least $1.60 per hour for three hours of after-school job training daily. During the summer, they receive full-time job training.

For further information, contact BEEP Administrator, Smith, Kline & French Laboratories, 1500 Spring Garden St., Philadelphia, Pa. 19130.

- Chicago's Double E Program. Initiated in 1961 by the Carson Pirie Scott & Co. department store and Chicago Public Schools, with support from the city of Chicago and the Ford Foundation, the Double E (Education and Employment) Program is aimed at high school dropouts. Many of its features were used in the federal Manpower Development and Training Act and Vocational Education Amendments legislation. The program has about 300 enrollees, operates 48 weeks a year, and has new-student induction every 10 weeks. Unemployed out-of-school youth receive 12 hours of classroom instruction each week, conducted in an office building, and another 24-32 hours a week in entry-level merchandising and clerical job training. Classroom instruction--English, social studies, business training, and math--is all occupation-oriented, and students are given high school credit.

  For further information, contact Urban Youth Program, Chicago Public Schools, 201 N. Wells St., Chicago, Ill. 60643.

- General Electric-Cleveland Job Training Center. In 1968, General Electric Co.'s Lamp Division donated a multimillion-dollar factory building to the Cleveland Board of Education. It has been converted into the Woodland Job Training Center, where 500 unemployed dropouts aged 16-22 receive basic and remedial education, job skill training, and placement help. In addition to GE, several other firms lease space and participate in the skill training.

  For further information, contact the Woodland Job Training Center, Cleveland Public Schools, 1380 E. Sixth St., Cleveland, Ohio 44114.

- North American Rockwell-Downey World of Work Program. A different approach--redesigning Voc Ed programs in the school with direct participation of industry--is exemplified in the World of Work Program developed by the Downey (Calif.) Unified School District and its industrial neighbor, North American Rockwell's Space Division. Traditional "practical arts" courses have been restructured into programs embodying the primary industrial functions of design, marketing, manufacturing, and servicing. North American Rockwell provides consultative assistance, specialists to teach courses, and equipment and instructional materials. The junior high industrial arts programs were converted into industrial design, manufacturing, and servicing labs. One junior high has a servicing center where students work on mechanical devices (bikes, small engines,

mowers, etc.), electrical wiring and repair, and building cleaning, painting, and plumbing. At the high school level, a plastics fabrication and structure assembly program has been developed. In addition to providing occupational education to the students, the high school program improves the quality of workers hired by North American Rockwell and reduces their in-plant training requirements.

For further information, contact the Supervisor of Vocational Education, Downey Unified School District, 11627 Brookshire Ave., Downey, Calif. 90241.

Education-Industry Councils

The Northern California Industry-Education Council (NCIEC) provides an example of the creative approaches which can develop through this method of cooperation. In addition to fostering communication and cooperation via various educator-business-industry representative meetings, seminars, and symposiums, and assisting in activities such as science fairs and junior science and humanities symposiums for teachers and students, NCIEC organized a transcontinental flying trip called "Journey for Relevance" for California educators and interested citizens. The six-day trip, in November 1969, featured visits to innovative schools in five locations: the Nova School Complex in Fort Lauderdale, Fla. (for continuous progress instruction); Quakertown Elementary School and Abington High School, Quakertown, Pa. (for individually prescribed instruction); schools in Niskayuna, N.Y. (for an example of change through long-term participative planning); Evanston Township High School, Evanston, Ill. (for dial access retrieval); and Clark County School Complex and Vocational-Technical Center, Las Vegas, Nev. (media center and interaction analysis). The 81 people in the group included school personnel and business and community leaders from throughout California. A detailed report of the project, "Industry and Education Study No. 3/Journey for Relevance," has been published by the Institute for Educational Development, 52 Vanderbilt Ave., New York, N.Y. 10017.

Joint Occupancy

Several school districts are involved in planning or building schools which are tied both physically and programatically to commercial enterprises.

- New York City, through a unique public authority created by 1966 legislation and called the New York City Educational Construction Fund, is planning and building 23 joint-occupancy projects that will result in construction of new schools at little or no cost to the city. The Fund is able to issue revenue bonds which are retired with income produced from the lease of air space over schools to commercial enterprises in choice business locations. Two of the proposed projects involve vocational schools. One proposes construction of a new $15 million Central Commercial High School topped by a $14 million office tower; the other, construction of a $16 million Downtown Commercial High School with air rights over the school leased for construction of a $30 million office building. If plans materialize, both schools will have close

links with their business neighbors overhead for cooperative school-work programs.

- Dallas (Texas) Independent School District is constructing a facility with a different kind of joint occupancy in mind. A 600,000-sq. ft. Skyline Center for Career Development is being added to an existing comprehensive high school site. The Center will house facilities for such career areas as transportation services, electronics manufacturing and merchandising, health services, food services, and construction occupations. With the help of the Dallas Chamber of Commerce, the district hopes to attract business and industrial partners who will accept guaranteed performance contracts to take over parts of the Voc Ed program.

  For further information, contact the Dallas Independent School District, Dallas, Texas 75204.

- Philadelphia's Parkway Program may represent the ultimate in "joint occupancy." In this widely publicized educational innovation begun in 1968, the "school without walls" uses the entire community as its classrooms--garages, churches, office buildings, hospitals, stores, the police department, the public library, and many other public and private institutions. Almost completely individualized programs are possible, and the potential exists to develop school-work programs in almost any occupation.

  For further information, contact the Director, Parkway Project, Philadelphia Public Schools, Philadelphia, Pa. 19103.

Vocational Curriculum Development

Although a discouraging number of American schools still have industrial arts classes hammering out copper ashtrays or building a set of bookshelves, exciting things are beginning to happen in Voc Ed curriculums. Here is a random sampling of the new developments in vocational curriculums:

Postsecondary curriculum guides in 19 vocational areas are under development by 18 educational agencies in 14 states under 1970-71 grants for curriculum development. When completed, the guides will be in the public domain for any public or private school to use in developing new postsecondary programs or updating existing ones. Some of the subjects being covered and the institutions undertaking the project include:

- A Curriculum Guide in Air Traffic Control and Advisory Technology (Miami-Dade Junior College, Miami, Fla.)
- Two-Year Post-High School Curriculum for Teacher Aides (New York U., New York, N.Y.)
- Pediatric Assistant Program Development Guide (U. of Iowa, Iowa City)
- A Curriculum Guide in Air Pollution Technology (Santa Fe Junior College, Gainesville, Fla.)
- A Curriculum Guide in Law Enforcement (University Research Corp., Washington, D.C.)
- Radiologic Technology--A Two-Year Post-High School Curriculum (St. Louis Junior College District, Clayton, Mo.)

- Curriculum Guide for Urban Development Assistants (Essex Community College, Baltimore, Md.)
- Cooperative Occupational Education Programs for Small Schools (U. of Nebraska, Lincoln)

Aeronautical science course for high schools has been developed by California educators, and the 285-page illustrated course outline covers 11 units teachers can use to establish aviation and space programs in science classes. The outline is available for $2.25 from the Supt. of Documents, Govt. Printing Office, Washington, D.C. 20402 (Order #TD 4.8:Ae8).

Airport and airline operations curriculum is being developed in connection with a unique new high school scheduled to open in New York in the fall of 1971. An existing high school near John F. Kennedy International Airport is being modernized for reopening as a comprehensive high school stressing airline occupations (pre-pilot training, pre-stewardess training, air traffic control, meteorology, purchasing, ticket sales, executive management). New York City's schools already include Aviation High School, which prepares students for aircraft maintenance jobs.

Nautical occupations are covered in several innovative Voc Ed programs in locations where such occupations are an important part of the economy.

The Gateway Borough School District, Ketchikan, Alaska, has a Sea Education program for grades 10-12, which was established with Elementary and Secondary Education Act Title III funds. Sea Ed (which won one of the 1970 National School Boards Awards sponsored by the Assn. of Classroom Teachers and Thom McAn Shoe Co.) features field experience trips in a 50-foot former Coast Guard boat owned by the district and in a leased fishing vessel. Tenth graders take marine biology and a maritime-related English course; 11th graders cover piloting, electronic navigation devices, fish harvesting, engine trouble shooting, hydraulics, refrigeration, small business management, and navigation-related math; 12th graders select from specialized options which include seamanship, marine electronics, and power mechanics. Sea Ed began in 1967; the 1970 graduates all had jobs waiting for them.

Sea Resources Inc., a nonprofit corporation formed by citizens concerned about declining commercial fishing at Ilwaco, Wash., was instrumental in organizing a program which involves two local school districts--Ocean Beach and Naselle-Grays River--and Washington State's Coordinating Council for Occupational Education. Sea Resources has its own fish hatchery and a fishing boat. Eleventh and 12th graders receive training in commercial and sport fishing, fish culture, seamanship, navigation, marine hull design, and engine repair and maintenance. The student-operated hatchery has already released 50,000 baby chum salmon (which will return to the Ilwaco area in two to three years) and is holding another 330,000 for additional release.

For further information, contact the Washington State Coordinating Council for Occupational Education, P.O. Box 248, Olympia, Wash. 98501.

Industrial Arts Curriculum Project, supported by USOE funds and headquartered at Ohio State U., is converting junior high industrial arts shops into laboratories for today's world of work. A two-year curriculum has been

developed. The first part, "The World of Construction," was field tested in a handful of schools in 1967 and is now used by more than 300 schools; the second part, "The World of Manufacturing," is being readied for introduction into schools in 1971.

In "The World of Construction," junior high students actually tackle a "home building" project and take it through planning, technology, and management phases. They learn about purchasing land, surveying, clearing, and grading it. In five-member work groups, they construct an actual 4' x 4' building corner, including cement footings, wood framing, flooring, plumbing, insulation, siding, heating and cooling ducts, and roofing. When the project is done, the house is "sold" so that students learn about deeds and property title transfers. Each student's final project is to design his "dream house."

In "The World of Manufacturing," students devise production and assembly lines to construct such items as a small wooden rocket, a wooden land assault vehicle powered by a carbon dioxide cartridge, a buzzer burglar alarm, and a screwdriver with a plastic handle. The final project, combining all of the skills they have learned, involves production of high-intensity desk lamps. Experience thus far indicates cost of installing the Industrial Arts Project is about $40 per pupil the first year, $10 per student in subsequent years.

For further information, contact the Director, Industrial Arts Curriculum Project, Ohio State U., 1712 Neil Ave., Columbus, Ohio 43210.

Hughson (Calif.) Union High School is operating a curriculum designed for total integration of vocational and academic education, using several "learning management systems." In an individually prescribed instruction approach, each student spends 20% of his school time in large group instruction, 40% in small group instruction, and 40% in independent study. A nongraded approach is used, and students proceed at their own rate. There are no failures (a student simply recycles through a unit if he needs additional work). Results, according to "A Policy and System Study of California Vocational Education," have been spectacular: "The dropout rate has been reduced from 30% to two dropouts in two years; 13 previous dropouts have returned to school.... The continuation school, for those who had gotten out of step in the regular school program, has been closed. Hughson is now taking dropouts from Turlock and Modesto. The percentage of the student body pursuing post-high school education has increased from about half to about 70%.... Approximately one-third of the terminal high school graduates are presently employed in jobs directly related to their major emphasis in school."

Quincy (Mass.) Vocational-Technical School features an experimental, student-controlled curriculum providing individualized instruction that allows the student to move up a skill ladder in his chosen career field at his own pace. The instructional program is the result of a 1965 grant awarded to the Quincy Public Schools and American Institutes of Research by USOE's National Center for Educational Research and Development (NCERD). The development--known as Project ABLE--began with a study of the Quincy employment market, then built the more than 250 occupations identified into curriculum clusters. Eleven programs were constructed: business education, computer data processing, electro-electronics, foods preparation, general piping, general woodworking, graphic and commercial arts, health occupations, home

economics, metals and machines, and power mechanics. All include career guidance elements. The entering student's first week is devoted to an intensive orientation session with the teacher. The many study units available are explained, and the student then chooses which units he wants to take. As he completes a unit, he is checked individually by the teacher. If he passes, he posts his success by hanging a chip beside his name on a bulletin board. At whatever point he leaves the program, he has some marketable skills, but the student understands that the higher he moves on the career ladder, the better will be his employment opportunities.

An interesting aspect of Project ABLE is that the physical facilities were being designed and erected at the same time the curriculum development was taking place. Built to meet a critical need for more high school space, the Vocational-Technical School was constructed as an extension of Quincy High School. The result is a flexible four-story instructional space, with 43,500 sq. ft. of unobstructed area per floor (all interior walls are demountable). The technical school contains a modern library shared with students from Quincy High; and the two physical plants are interconnected by a bridge. Also shared are auditorium and gym facilities. One recent traffic count on the bridge registered 3,600 crossings in one day, indicating a genuine linkage between the academic and Voc Ed programs.

For further information, contact the Quincy Public Schools, 70 Coddington St., Quincy, Mass. 02169.

The Work Opportunity Center (WOC) of the Minneapolis (Minn.) Public Schools goes a step further, being a school that takes pains not to look or operate like one. Recognized in 1970 as one of a handful of outstanding exemplary projects by USOE and the President's National Advisory Council on Supplementary Centers, WOC was begun in 1966 with an educational research grant from NCERD. It has also been supported with funds from the Vocational Education Act, Title III of the Elementary and Secondary Education Act, and Minnesota State Dept. of Education. Housed in a downtown building which was once a Masonic hall, WOC is one of a growing number of experimental institutions designed to "turn on" 16- to 21-year-old school dropouts and potential dropouts and provide them with marketable skills. It appears to be working at WOC, where 3,300 young people have been graduated since 1966 and where, in the words of a counselor, many students say that "WOC is where school started to make sense." Students' programs are highly individualized, and there is a built-in reward system. The student can enter at any time, attend as many hours per day as his time and inclinations dictate, and move through the vocational education programs at his own pace. Grading is on a "pass-fail" basis, but nobody fails--some just take longer to complete programs than others. High school credit is given for successful completion.

Students get redeemable 10¢ coupons for attending class and completing assignments, and the coupons are good at WOC's cafeteria, dry cleaning establishment, and service station. Student achievements are posted on bulletin boards throughout the center. Instruction is provided in electronics and electricity, small engine repair, machine work, office skills, home economics, health care, marketing and merchandising, food service, and auto mechanics and service station occupations (in an operating station leased by WOC and operated at a profit). There's a free lending library stocked with magazines

and paperbacks, and students can keep the books if they want them (most read and return them). In one of the newer components, WOC is now providing part-time instruction for junior high-level students identified for help under Milwaukee's dropout prevention program.

For further information, contact the Work Opportunity Center, Minneapolis Public Schools, 807 N.E. Broadway, Minneapolis, Minn. 55413.

Dept. of Defense Instructional Materials are being made accessible to teachers by a Northwestern Regional Educational Laboratory (NWREL) project. Noting that military services have training programs for which many materials have been developed, NWREL investigated their usefulness for schools. An examination of 42,000 transparencies and 500 films used in Navy training revealed 12,000 suitable items. NWREL is now developing index-catalogues in seven vocational areas--auto mechanics, welding, machinist trades, basic electricity, basic electronics, first aid, and marine navigation--for distribution to teachers in NWREL's five-state region. Final phase, with cooperation of the state departments in Alaska, Idaho, Montana, Oregon, and Washington, is to establish clearinghouses for the catalogued materials.

For further information, contact the Project Coordinator, Dept. of Defense Instructional Materials, NWREL, 400 Lindsay Building, Portland, Oreg. 97204.

Taking an even more comprehensive look at military approaches to instruction was a project undertaken through a grant from USOE's National Center for Educational Research and Development (NCERD) by the Aerospace Education Foundation. Using Utah as a laboratory, the project tested whether complete Air Force instructional programs are usable in schools to teach occupational subjects. The Utah project began in 1967, using three Air Force courses from areas identified as high demand occupations in Utah. A 90-hour segment from the Standardized Electronics Principles Course was tested at Weber State College (Ogden), Dixie College (St. George), Utah Technical College (Provo and Salt Lake City), and Jordan High School (Salt Lake City). A 60-hour unit of the Aircraft Pneudraulic Course was used at Utah State U. (Logan), and a 20-hour segment from the Medical Service Specialist Course was tried at Utah Technical College in a nurse's aide program.

In each, some students were given the military courses exactly as they are presented to Air Force personnel, while others were given the programs modified somewhat with conventional school instructional approaches. Teachers found they had to make some radical changes in instructional techniques to adapt to the Air Force approach, which makes extensive use of audiovisual and programmed materials and which is tightly structured to produce specific job skills. Conclusions from the project are that the Air Force materials can be adapted with good educational results by civilian schools, that their acceptance by students improves if they are modified from the strict job-orientation approach, and that use of Air Force techniques can shorten the required length of programs. For further information, contact the Aerospace Education Foundation, 1717 Pennsylvania Ave., N.W., Washington, D.C. 20015.

Emerging occupations are being met in new postsecondary programs all over the country by both technical-vocational schools and community or junior

colleges. Just two of the 1970 issues of the monthly Occupational Education Bulletin, published by the American Assn. of Junior Colleges (1 Dupont Circle, N.W., Washington, D.C. 20036), included listings of these new programs:

- Natural Resources Conservation
  (Dutchess Community College, Poughkeepsie, N.Y. 12601)
- Human Services
  (Monroe Community College, Rochester, N.Y. 14623)
- Fire Science Technology
  (Ohio Mechanics Institute Evening College, Cincinnati, Ohio 45210)
- Organization and Administration of the Small Business
  (Meramec Community College, St. Louis, Mo. 63122)
- Conservation and Outdoor Recreation
  (Wabash Valley College, Mt. Carmel, Ill. 62863)
- Environmental Control Technology, Waste Water and Water Treatment
  (Waubonsee Community College, Sugar Grove, Ill. 60554)
- Rehabilitative Medicine Assistants
  (North Shore Community College, Beverly, Mass. 01915)
- Nuclear Medicine
  (Hillsborough Junior College, Tampa, Fla. 33622)
- Computer Troubleshooters
  (Broward Junior College, Fort Lauderdale, Fla. 33314)
- Radiology Training
  (Mesa College, San Diego, Calif. 92111)
- Chemical (alcoholism and drug) Dependency Counselors
  (Metropolitan State Junior College, M eapolis, Minn. 55403)
- Respiratory Therapy
  (Weber State College, Ogden, Utah 34403).

Health occupations are included among 10 experimental projects funded for a total of more than $5 million by USOE's National Center for Educational Research and Development. One, a massive four-year, $2 million project headed by Melvin L. Barlow of the U. of California-Los Angeles, is designing new courses and techniques for about 40 medical and dental jobs. One experiment involves development of a completely new occupation--ward manager, a person to relieve nurses of administrative and housekeeping tasks. Another is developing common core courses for several health programs, including dental assistant, hygienist, and lab technician. The Technical Education Research Center (Cambridge, Mass.) is devising curriculums in nuclear-medical, biomedical, and electro-optical technologies.

Hospitality occupations will get realistic treatment in the Tri-County Joint Vocational District in southern Ohio, which is constructing its own hotel-motel at Nelsonville as a vocational training facility. Funds for the $1.3 million project are coming from the Vocational Education Act, Appalachian Regional Commission, and revenue bonds. When it opens in the fall of 1971, the hotel-motel will serve as a training site for 400 student employees, including both adults (who will get classroom work at the hotel) and high school students who will take their schools' academic subjects half days and train at the hotel the other half.

VOCATIONAL COUNSELING AND GUIDANCE

That old quote about the weather seems applicable to the present status of vocational counseling and guidance--everybody talks about it, but nobody seems to be able to do much about it. Some of the talk:

"Sound career choice is made in direct proportion to the information, exploration, guidance, and opportunity available to the individual and the assistance given him for entry placement.... The freedom to choose a career does not assure anyone of making a good choice unless there is a sound basis for judgment and opportunities to try out preliminary decisions.... A recent survey showed only 19% of high school seniors felt they knew as much about jobs as they would like to know. For too long, choice of occupation and preparation for career development has been left primarily to chance." (Grant Venn, in Man, Education, and Manpower)

"In North Dakota, there are 74 certified secondary counselors in grades 9 through 12, and 14 certified counselors in junior high schools. These 88 certified counselors serve 68 schools in 54 of the 258 secondary school districts.... The counselor-pupil ratio for students enrolled in public junior and senior high schools in North Dakota is approximately 880 to 1.... At the public hearing meeting of the North Dakota State Advisory Council...problems were vividly projected by a panel discussion of students enrolled in vocational education programs. The students indicated that in some cases they were encouraged not to attend vocational education programs although they had expressed an interest in a particular program. Other students were not told about the existing vocational programs and the benefits derived from them, and others had no counseling service available to them." (First Annual Report, North Dakota Advisory Council for Vocational Education, 1970)

"...For the foreseeable future, the need for counselors will outstrip the supply. A conservative estimate is that by 1975 there will be a need for 159,391 counselors in elementary and secondary schools, junior colleges and universities, the Employment Service, rehabilitation agencies, and various Office of Economic Opportunity programs.... Suffice it to say that insufficient numbers of counselor education opportunities, inadequate numbers of counselor educators, inadequate funds inequitably distributed for training and trainers, for facilities and for incentives, a lack of a clear system of priorities or goals--each contributes to the conditions which exist." (Edwin L. Herr, at the National Conference on Guidance, Counseling, and Placement in Career Development and Educational-Occupational Decision Making, October 1969)

"All guidance counselors must become more occupationally minded through special training programs and/or work experience programs...." (Annual Report, Colorado Advisory Council on Vocational Education, 1970)

"Unfortunately, most counselors have been academically trained, have no firsthand experience with the many occupations students need to know about, and feel that parental pressure forces them to spend more time with academic students.... By and large, guidance counseling in California is not helping students in planning and pursuing their careers. The lack of sufficient funds for vocational guidance, the inadequate counseling preparation, the conflicting views of the counselors' true function, the impossible student-counselor ratios--all work against effective career development counseling." (A Policy and System Study of California Vocational Education, prepared for the California State Board of Education by Arthur D. Little, Inc., 1970)

"The marked need for increased attention to guidance needs of students and prospective students of vocational education must not be accomplished at the expense of other portions of the student population. There is danger... we may be tempted to create two types of counselors, one for 'regular' guidance and one for 'vocational guidance'.... We must avoid allowing our attempts to correct current weaknesses in this aspect of guidance to result in an overemphasis, for to do so would only be to substitute a new for an old mistake." (Kenneth B. Hoyt, at the National Conference on Guidance, Counseling, and Placement in Career Development and Educational-Occupational Decision Making, October 1969)

"If a lad does not want to probe outer space, there are perhaps 20,000 other specialties for him to consider but no way for him to do it intelligently. Information flow is too limited and too haphazard.... We are on the threshold of tremendous new developments in computerized career information, coordinated systems of skill training, and job-matching on statewide and nationwide bases. If well articulated and used as a 'people-propellant' instead of a 'people-pulverizer,' a massive system linking people to jobs could do measureable good." (Felix C. Robb, at the National Conference on Guidance, Counseling, and Placement in Career Development and Educational-Occupational Decision Making, October 1969)

"Steady progress is now being made in the extension and improvement of vocational guidance, counseling, placement, follow-up, and related functions. On the premise that it is in the national interest to make vocational guidance accessible to all youths and adults, it remains true, nevertheless, that emphasis upon vocational guidance does not occur, as far as the great mass of noncollege-bound students is concerned. While the amounts expended on vocational guidance from federal, state, and local funds have risen significantly, they still amount to only a small percent of the total funds spent for vocational education. The need for expanding and strengthening vocational guidance and counseling continues to be an urgent and critical problem." (David H. Pritchard, Senior Program Officer, Student Personnel Programs, Bureau of Adult, Vocational, and Technical Education, USOE, in an interview with the writer of this Special Report)

In all the talk about vocational counseling and guidance, there are several points of agreement:

(1) Career guidance is a continuous developmental process which should be an integral part of the total school program.

(2) Most public school students are not receiving career counseling, unless they have been identified as "college-bound."

(3) There is now, and will continue to be, a severe shortage of trained vocational counselors.

There are also points of disagreement. One group holds that vocational counseling should be treated as a specialized area and staffed with specialists; the opposing view is that staffing schools with "vocational" and "regular" counselors will continue Voc Ed's second-class stigma. Some of the experts talk of training paraprofessionals to help meet the need for vocational counseling; others issue warnings about lowering professional standards with the result that the counseling function will be mishandled. Many authorities advocate use of new technologies such as computerized occupational information as counseling tools; others decry such approaches as "dehumanizing" the counseling process.

Amid the talk, however, genuine efforts are being made to do a better job in this area. Innovative approaches are being tried. A nationwide program of developmental work in career guidance, counseling, and placement has been launched by the Student Personnel Programs branch of USOE's Bureau of Adult, Vocational, and Technical Education. First step was the National Conference on Guidance, Counseling, and Placement held at the U. of Missouri in October 1969. Using the proceedings of the national conference as a major input, nine regional conferences have been held in USOE's regional office areas. The final phase envisions publishing a handbook based on input from the national and regional conferences on how to organize and manage programs of vocational guidance, counseling, and placement, and using this handbook as the basis for workshops in each of the 50 states.

Elementary Career Guidance

Most of the innovative efforts at the elementary level consist of building information and concepts about the world of work into the regular curriculum, and several projects using this approach are beginning to gain attention and usage.

- Technology for Children (T4C) is a K-6 program developed in New Jersey with the help of the Ford Foundation and federal funds, and it combines a series of technical activities with "regular" elementary subjects such as language arts, math, social studies, and natural science. The approach is designed to give children world of work concepts as a continuous part of their schooling, to acquaint them with modern technologies, to provide "hands-on" experiences, and to give them the opportunity to understand the relevance of studying and learning at the same time they are discovering their personal aptitudes and interests.

  Each T4C classroom has a complete set of hand (and sometimes power) tools, and teachers have guides for a series of 47 "Learning Episodes."

These Episodes range from "Discovering Machines" and "Merchandising" in kindergarten, through such titles as "Writing Poems for Silk Screen Cards" (1st grade, language arts-related), "Marine-Nautical" (2nd grade, math-related), "Exploring Electricity" (3rd grade, natural science), "Candle Making" (4th grade, social studies), "A Rubber Stamp Business" (5th grade, language arts), and "Weather Station" (6th grade, science).

As one example of how it works, a group of fifth graders in Marlton operated their own rubber stamp business, starting with a $170 loan from the local bank. They manufactured the stamps, sold them, kept accurate records of all transactions, used the advice of a former Fuller Brush man when sales declined, and finally used their $850 profit for a field trip to New York.

Since T4C began in 1966, inservice training for teachers has been an important part of the statewide project. Two approaches are used: (1) six-week summer Institutes of Technology for teachers, or (2) intensive three-day workshops at the midyear point, followed by weekly regional meetings to help the new T4C teachers solve problems and compare ideas. Each teacher completing a workshop is issued a $700 classroom tool set, a manual on hand tool safety (which they also teach to the pupils), and a guidebook on where to get the materials they will need cheaply.

More than 120 teachers in 40 New Jersey districts are now using T4C, and in the fall of 1970 Parkside School in Camden became the first to use it in every classroom in the school.

For further information, contact Technology for Children, Vocational Education Division, New Jersey State Dept. of Education, 225 W. State St., Trenton, N.J. 08625.

- Careers of the Month Program (COMP) is a developmental career guidance and occupational information program designed in 1968 by Lee Laws, a school counselor, under the direction of John Ridener, chief consultant of guidance services for the Texas Education Agency.

  Using a different elementary curriculum area each month throughout the elementary grades, Mrs. Laws's Careers Program suggested activities that can be used within the standard instructional program to instill concepts about the world of work and about occupations. Among the 23 concepts listed for introduction and/or development in K-6 are "work has dignity," "people work for various rewards or satisfactions," "some workers produce goods; others produce services," "careers are grouped by job families," "technological and sociological changes eliminate and create jobs," and "geographical location determines kinds of work found therein."

  Instructional guides tie occupations and careers to subject areas at each grade level. Suggested sequence is: September--career concepts introduction; October--language arts careers; November--math; December--science; January--social studies; February--fine arts; March--vocational education; April--health and physical education; and May--review and culmination.

For further information, contact the Division of Guidance Services, Texas Education Agency, Austin, Texas 78711.

Other elementary-level career guidance and occupational information programs under development or in pilot stages:

- Washington State has two pilot programs incorporating vocational guidance into social studies, one in an urban setting and one rural.

- Idaho's State Dept. of Vocational Education has assisted the Kimberly School District in developing occupational orientation materials for use in the regular curriculum in grades 1-12. One of the major benefits was bringing teams of teachers and counselors together to develop the materials cooperatively.

- The Washington, D.C., school system has allocated $206,000 to draw up a new job orientation curriculum, train teachers, and pilot an elementary-junior high program in six schools during 1970-71.

- The P. K. Yonge Laboratory School, Gainesville, Fla., is developing a K-5 program designed to integrate vocational and academic skills, provide counseling, and improve attitudes toward the world of work.

Junior High Orientation/Exploration

In addition to expanding general counseling services and trying to reduce counselor-student ratios, many junior high schools are developing career orientation and occupational exploration programs--increasingly with either actual work experiences or "hands-on" simulated work experience in the classroom.

- Program of Education and Career Exploration (PECE) is an innovative Georgia project which integrates firsthand job experiences with the regular instructional program in grades 7-9. Initiated in 1969, PECE has been expanded to involve 70 schools and 13,000 students during 1970-71; and Georgia's goal is to have 190 schools and 36,000 students involved by 1974.

  With cooperative efforts by businesses, industry, teachers, school administrators, and parents, PECE provides once-a-week vocational exploration for each student. In a typical five-week unit, students spend one day in orientation to a general career area, one five-hour day on a job, one day in group guidance, another five-hour day on a different job, and one day of summary in which the career area's requirements and opportunities are reviewed. On-site orientation to career education opportunities at the nearest area vocational high school is included.

  As one example of what happens, a 13-year-old girl from rural Cumming (2,000 population) who participated in the PECE program in 1969-70 could state that she had "been" a jail matron, counselor, bank teller, chiropractor, disc jockey, egg packer, upholsterer, forest ranger, drugstore clerk, teacher, and service station attendant.

In the 1969-70 Forsyth County PECE Project, coordinator Lawton Baggs involved 80 employers, representing 95% of Cumming's businesses, agencies, institutions, and professions. Some 1,120 job experiences were provided to the 8th and 9th graders, and a story about PECE in Scholastic Teacher (Sept. 21, 1970) notes that "one of the great unexpected benefits of Project PECE is the involvement of community parents and employers in the education of PECE students. Both groups have gained insight into the kinds of students and programs in their local PECE schools. Students, in turn, have gained insight into their communities...." A by-product of the project has been a seven-part film series on PECE for general telecasting over Georgia's educational TV network.

For further information, contact the Vocational Education Division, State Dept. of Education, State Office Building, Atlanta, Ga. 30334.

- Clearwater Comprehensive Junior High, Pinellas County, Fla., has a program based entirely on integration of prevocational and academic instruction, with emphasis on occupational guidance. Opened in 1968 in a former all-black high school closed as part of the county's desegregation program, Clearwater Comprehensive draws students on a voluntary basis from seven other junior high schools. Its program is aimed at students who are capable of high school work (including college prep), but who appear likely to drop out of high school or who want the opportunity to explore occupational areas as an alternative to college preparatory programs.

  Each 7th grader has a two-module block (one hour) of "hands-on" vocational exploratory experiences daily; 8th graders spend three modules a day in deeper exploration of their areas of interest; and 9th graders get four modules daily. For all students, the school year includes three weeks of exploration in each of 12 occupational areas. The vocational areas include business, construction, dry cleaning, home economics, electronics, food service, graphics, tailoring, horticulture, metal shop, drafting, and power mechanics.

  Each Clearwater student also has a module of small group guidance weekly for school orientation, test interpretation, interest inventories, attitude and personal-social development, and vocational-educational planning.

  For further information, contact the Clearwater Comprehensive Junior High School, 1220 Palmetto St., Clearwater, Fla. 33515.

- Introduction to Vocations is an elective course available to all 9th graders in North Carolina. The one-year course includes (1) relating one's physical characteristics, educational experiences, aspirations, interests, aptitudes, and abilities to occupations, (2) relating the economic system to occupations and to oneself, (3) exploring manual and mechanical occupations, (4) exploring clerical, sales, and service occupations, (5) exploring professional, technical, and managerial occupations, and (6) evaluating and planning ahead. North Carolina's state department distributes a provocative brochure to students to promote the elective course.

For further information, write to Introduction to Vocations, North Carolina Dept. of Public Instruction, Education Building, Room 445, Raleigh, N.C. 27602.

- Northern New England Vocational Education Project is working on a model for career development education in grades 7-10 specifically designed for small rural schools. Six schools--two each in New Hampshire, Maine, and Vermont--are participating; and dissemination to schools throughout the three-state area, on the basis of the pilot, is planned for 1971.

  For further information, contact Walter O. Faulkner, Vocational Education Project Director, Maplewood Ave., East Montpelier, Vt. 05651.

High School Career Counseling

At the senior high level, much of the thrust is being directed at trying to improve and expand counseling services already available. Many districts are trying hard to improve counselor-student ratios. Throughout the nation, counselors are participating in inservice programs designed to improve their abilities to help all students with career information and counseling. Some districts are adding vocational counseling as a specialty. Dayton, Ohio, for example, has six vocational guidance counselors who work with teachers and who also serve as the district's liaison unit with business and industry for such programs as career days, plant tours, and job observation days.

Paraprofessional assistance is being added in some places. Florida's 1970 legislature passed a bill which provides that school boards "may employ occupational specialists to be used in place of counselors in up to 50% of all counseling positions in the district. Such specialists are to be used under the supervision of a certified counselor to handle specialized assignments, either individually or as a part of a counseling team. These assignments may include identifying and counseling potential dropouts and their parents. In addition, the specialized assignment might relate to counseling students, teachers, and administrators concerning job and career opportunities."

Several states with large rural areas containing small high schools are using mobile units staffed with vocational counseling specialists to improve services to youth. Five sparsely populated counties in central South Dakota are served by such units, equipped with occupational guidance books, films, and pamphlets for the region's 5,700 students. And, increasingly, both rural and urban counseling staffs are trying out some of the new technology available in vocational guidance, such as Project VIEW materials or computer-assisted guidance systems.

Project VIEW

Originally developed in San Diego, Calif., VIEW (Vital Information for Education and Work) is a system which stores information about occupations on microfiche mounted in a data processing aperture card. With state and regional modifications (including, in some places, changing the acronym base to "Vocational Information for Education and Work"), VIEW is beginning to

enjoy widespread usage. In the state where it began, the system is one of the major components of 11 career information centers.

The VIEW system involved compiling (and frequently updating) information on different occupations, putting the information into a standard format which can include both typeset material and illustrations, reducing the material on a particular occupation to a piece of microfilm, and mounting the fiche in a data processing aperture card. Decks of the VIEW cards are then placed, along with a microfiche reader or reader-printer machine, in locations where they are accessible to students and their teachers and counselors.

Typically, the microfilmed information includes a description of the kind of work involved in the occupation, educational requirements and job entry qualifications, employment prospects and advancement opportunities, salary and working conditions, where to get the needed education or training, and sources of additional information. Information keypunched into the card itself usually includes aptitude levels required (based on General Aptitude Test Battery cutoff scores), educational requirements, physical requirements, etc., so that a computer printout of occupational titles worth investigating can be obtained if one knows a specific individual's aptitudes and personal characteristics.

Colorado is using VIEW in every high school in the state. The Colorado Career Information Center has developed more than 260 occupations into the VIEW format. South Carolina is developing a statewide system, with writing and administration by the state department's Research Coordinating Unit and microfiche card production centered at Clemson U. Fifteen schools are using South Carolina VIEW, and the goal is to have the service in every junior and senior high school by mid-1972.

The Texas Education Agency's Region XIX Education Service Center (6501-C Trowbridge St., El Paso, Texas 79950) is the production headquarters for Texas VIEW. Texas' format is to couple several pages of general description of an occupation with highly localized descriptions. Also unique is Texas VIEW for the handicapped, which has material about an occupation suitable for handicapped persons written in mid-third-grade vocabulary on half of the fiche, and information for the teacher on the other half.

The Appalachia Educational Laboratory (Charleston, W. Va.) is testing Appalachia VIEW in 11 rural schools in eastern Kentucky and Tennessee, and its 200-plus VIEWscripts contain photos of people in on-the-job situations as well as six to eight pages of information. The Lab regards VIEW as just one component of a multimedia approach to vocational guidance and is also developing a videotape series depicting "life styles" of workers in selected occupations. The tapes, being piloted in eastern Tennessee and southwestern Virginia, show the worker on the job, in his home, and in his recreational pursuits.

Computer-Assisted Guidance

Computer-based guidance systems are in various stages of development and use at a number of locations. Some are highly sophisticated in terms of providing individual students the opportunity to evaluate occupational and edu-

cational information in the light of their personal interests, aptitudes, and goals. In several, the student "converses" or "plays career games" with the computer.

The amount of occupational-educational data which can be stored in computer systems is almost limitless, and retrieval of the data can be accomplished by anyone with a telephone line (rural high school students in Cochise County, Ariz., are conversing with the occupational information center in Newton, Mass., for example).

Willowbrook High School (1250 S. Ardmore, Villa Park, Ill. 60181) has a computerized vocational information system whose storage units contain detailed information about 650 occupations, plus the students' cumulative records. Students and counselors can engage in on-line career exploration related to the individual's characteristics. The counselors get an off-line record of all student interactions with the system, including "discrepancy statements" for counselor follow-up when a student's occupational information requests appear to disagree with his ability and interest patterns.

Computer-Assisted Career Exploration is a system developed at Pennsylvania State U. under the direction of Joseph T. Impellitteri (Dept. of Vocational Education, Pennsylvania State U., University Park, Pa. 16802). It is aimed specifically at 9th-grade boys interested in pursuing vocational-technical education in high school, and is designed to bring about both self-awareness and improved information upon which to begin to make career choice decisions.

Information System for Vocational Decisions (ISVD) is a joint development of Harvard U.'s Graduate School of Education, New England Education Data Systems, and the Newton (Mass.) Public Schools. A computer-driven multimedia system, it is by far the most complex of the computerized guidance programs under development. Designed so that the student can relate personal characteristics to occupational-educational information, ISVD presents data to the student in the form of slides, films, charts, and printouts.

For further information, contact David V. Tiedeman, Harvard Graduate School of Education, ISVD, 220 Alewife Brook Pkwy., Cambridge, Mass. 02138.

Other Guidance Media

Occupational guidance materials have been produced in various audio-visual media, including videotape, films, filmstrips, narrated color slide programs, and audiotapes and tape-cassettes.

Television has been a career guidance tool for several years in some locations. Georgia's state department has produced a number of occupational information materials for use on its educational TV; and the Altanta Public Schools, in 1964-65, produced a 30-part series entitled "That's My Business," which featured high school students and counselors in a "show and tell" format filmed on-site at Atlanta businesses and industries. Delaware's state department has a series about the world of work, including information about aptitudes and attitudes needed for various occupations. The Northeast Wis-

consin In-School Television (NEWIST) cooperative, using a combination of federal-state-local funds, produced a "Learning = Earning" vocational guidance series aimed at grades 6-9, which portrays occupations by videotaping workers in documentary style at their jobs. Plans are to expand the NEWIST materials for a Wisconsin-Minnesota-Michigan tri-state cooperative effort.

Many films about occupations are available from commercial producers, from trade and professional associations, and from the National Audiovisual Center. Quality of the commercial products ranges from poor to excellent, so that previewing before purchase is wise. Among recent high-quality vocational guidance films are "Where the Action Is," a 27-minute sound-color film on new technologies and postsecondary technical-vocational educational opportunities produced by USOE in cooperation with the Milwaukee Technical-Vocational School (loaned free, or $91.25 purchase, from National Audiovisual Center, Washington, D.C. 20409); and "It's Up to You," an 11-minute sound-color film available in 8mm or 16mm from Vocational Films, 111 Euclid Ave., Park Ridge, Ill. 60088 ($12 for three-day rental, $120 purchase).

Filmstrips are also available at less expense than films, but also in varying quality. Among the best for career counseling use are the Guidance Associates materials developed in cooperation with Ohio's Vocational Education Division and Ohio State U. The filmstrip-recording sets cover such topics as "Preparing for the Jobs of the 70's," "What You Should Know Before You Go to Work," and specific occupational areas. Guidance Associates also has a large selection of audio tape cassettes on skilled and technical nonprofessional occupations, which feature on-the-scene interviews with workers and are designed to depict "life styles" of people with different jobs. All are available for purchase from Guidance Associates, Pleasantville, N.Y. 10570.

Color slide programs are nothing new, and many school districts and vocational-technical schools develop their own. The Kansas City (Mo.) School District's Dept. of Vocational-Technical Education uses a clever technique, taking slides of district graduates in various jobs for use in 6th-grade presentations. Students recognize older brothers and sisters, neighbors, and friends in the photos and identify the occupations with "real" people. The technique is echoed in the district's booklet promoting vocational and technical education opportunities, liberally sprinkling the publication with on-the-job action photos of successful graduates.

Printed Occupational Materials

Occupational guidance printed materials abound. The chief problem is being certain that they are abreast of changing technologies, employment trends, and salary and working condition information. Many are free, either from trade or professional associations or related businesses and industries. Some of the best are federal government publications. Many of the State Employment Service offices have developed local and regional occupational information brochures and leaflets. Among useful publications for vocational counseling and guidance are:

Dictionary of Occupational Titles, an encyclopedia of job definitions and related data published by the Dept. of Labor's Bureau of Employment

Security which should be in every school. Latest edition (1965) contains 36,000 job titles under 22,000 occupations. The two-volume set is $9.25, and is available from the Supt. of Documents, Govt. Printing Office, Washington, D.C. 20402.

Counselor's Guide to Manpower Information, an annotated bibliography of government publications, is available for $1 from the Supt. of Documents.

Occupational Outlook Handbook, published every other year by the Dept. of Labor's Bureau of Labor Statistics, provides comprehensive information on several hundred occupations and discusses trends and conditions affecting employment in the decade ahead. Occupational Outlook Report Series contains individual reprints of each of the occupation descriptions in the Handbook (128 in the 1970-71 edition). Both are available from the Supt. of Documents, the Handbook at $6.25 and the reprint series at 10-20 cents each.

The "Jobs for Which" series of pamphlets based on the Occupational Outlook Handbook includes "Jobs for Which"; "Apprenticeship Training Is Available"; "High School Education Is Preferred, But Not Essential"; "High School Education Is Generally Required"; "Junior College, Technical Institute, or Other Specialized Training Is Usually Required"; and "College Education Is Usually Required." The five pamphlets cost from $5.50 to $6.75 per 100, from the Supt. of Documents.

B'nai B'rith Vocational Service publications and materials include a 50-item kit ($40), a handy booklet listing 103 free items in 500 career fields, entitled "A 'Starter' File of Free Occupational Literature" ($1.25), and a parent-teacher-counselor handbook titled "You and Your Child's Career" ($1.50). These materials, or a free catalogue, are available from B'nai B'rith Vocational Service, 1640 Rhode Island Ave., N.W., Washington, D.C. 20036.

Career Information Service, New York Life Insurance Co., publications include a 420-page paperback containing 57 career field articles, Career Opportunities, plus individual booklets for each of the 57 careers. All are free, from Career Information Service, New York Life Insurance Co., Box 51, Madison Square Station, New York, N.Y. 10010.

The Center for Research and Leadership Development in Vocational and Technical Education at Ohio State U. (Columbus) is one of two research centers supported by USOE's National Center for Educational Research and Development (NCERD). It produces and distributes nationally a wide range of materials to state-level administrators, supervisors, and teacher educators. Among programs to strengthen vocational-technical offerings, the Center has developed BOOST (Business Office Occupations Student Training) for use in training teachers of disadvantaged youth. The program was successfully field-tested in Missouri, Pennsylvania, Michigan, Texas, New York, Arizona, and Colorado. The program model, along with a publication describing 27 validated teacher activities, has been disseminated to state vocational education leaders.

The Center for Research, Development, and Training in Occupational Education at North Carolina State U., the second NCERD research center, focuses on postsecondary occupational education and evaluation of occupational education programs. A project report on employment in the South includes pre-

jections of manpower needs to 1980 and provides a base for planning programs. An ongoing project of the Center is developing criteria for accrediting occupational education programs.

Placement and Follow-Up

The President's Commission on Law Enforcement and Administration of Justice, in its 1967 Task Force Report, Juvenile Delinquency and Youth Crime, said, "The general mandate of the schools should be broadened to include responsibility not only for preparing youth for productive, responsible, and satisfying adulthood--but for guiding them into adult positions.... The school must share the responsibility not only for training for jobs but also for job development and job placement. Local educational agencies must participate in cooperative and comprehensive job development efforts...with industry, community action, employment services, and other community groups."

Although remaining far short of this kind of goal, schools in many places are beginning to add and expand job placement and graduate follow-up activities. Others are improving cooperative relationships with State Employment Services. In Tennessee, for example, all postsecondary technical institutes and community colleges maintain guidance and placement sections and engage in follow-up studies of their graduates.

The Houston (Texas) Independent School District has established an Occupational Placement and Follow-Up Service Center to assist all Voc Ed students in finding employment. Plans include doing detailed follow-up studies so that the Center can serve as a program evaluator and recommend any needed upgrading to improve graduates' employability and opportunity for advancement.

Georgia and Florida have been conducting annual statewide Techdays, in which business and industry representatives meet with graduating technical-vocational students to discuss employment possibilities. Georgia, with substantial support from the State Chamber of Commerce, has a Techdays advisory committee functioning year-round to increase effectiveness of this job interview and placement effort for its postsecondary area technical schools. Prior to the Techdays Florida distributes to its area technical-vocational schools a how-to-do-it manual. Georgia is also trying a similar program, called Employ-Ability-Days, for area high schools.

Job Banks are a computerized approach to improving placement opportunities. Coordinated by State Employment Service offices, the Job Banks solicit listings of position openings from businesses and industries in their area and coordinate referral of the requested number of interviewees. Heart of the system is a daily-updated computer printout of job vacancies in the area, which can be used by placement personnel in manpower training programs, State Employment Service counselors, and Voc Ed institutions. Agencies wanting to refer someone for an interview must first clear with the Job Bank control center, so that only the desired number of interviewees are sent to employers. Results of the day's hiring, and new vacancies, are fed into the system each day to produce an updated printout. About 40 Job Banks are now operating in places such as Baltimore, St. Louis, San Diego, Houston, Wilmington, Albuquerque-Santa Fe, and metropolitan areas in Arkansas and Iowa.

ACCREDITATION, TEACHER EDUCATION, AND CERTIFICATION

Among major unsolved problems facing vocational education are the question of how to evaluate and accredit the mushrooming number of occupational education programs, and the question of how to educate, recruit, and certify enough teachers and related personnel to staff Voc Ed programs.

Accreditation

Several national organizations are wrestling with the accreditation problem. The American Vocational Assn. (AVA), at the request of associations and commissions concerned with accreditation, plans a comprehensive study of the problem. AVA proposes to include the status of Voc Ed accreditation procedures, development of a set of guidelines for assessment and accreditation of vocational programs, and creation of an assessment-accreditation model.

The Education Commission of the States (ECS), in selecting critical higher education problems for attack during 1970, listed four interrelated topics as having highest priority: (1) vocational education in higher education, (2) student assistance, (3) statewide planning, and (4) community and junior colleges. Task forces have been appointed to work in each of the four areas. The Task Force on Vocational Education in Higher Education, chaired by Gov. Robert E. McNair of South Carolina, met in April 1970 and immediately identified Voc Ed accreditation as one of its crucial concerns.

Under sponsorship of ECS, the Federation of Regional Accrediting Commissions of Higher Education, and the Council of Regional Secondary School Accrediting Commissions, an interagency conference on the subject was held in Chicago. The conference identified three major complicating factors in Voc Ed accreditation: (1) the wide variety of kinds of schools involved in occupational education; (2) the need to develop meaningful complementary procedures among accrediting organizations because of the importance of accreditation for participation in federal funding; and (3) the basic conflict in approaches used by existing accreditation agencies--specialized programmatic evaluation vs. general institutional evaluation.

A third organization deeply involved in accreditation discussions is the Center of Occupational Education at North Carolina State U. Charles Ward of the Center has prepared a study of the Voc Ed evaluative criteria now being used by the six regional accrediting associations, by specialized accrediting organizations, and by the 50 states. Thus far, nobody has an answer to the problem. Some authorities are suggesting the need for a new national organization to serve as an evaluator and coordinator of Voc Ed

accrediting, either as a federal bureau or as an independent body made up of leaders from the lay public operating on the "accountability" concept. At any rate, the problem is under serious discussion by accrediting agencies.

Teacher Recruitment and Certification

In ironic contrast to projections indicating a surplus of school teachers in this country in the near future, all evidence points to an increasingly severe shortage of Voc Ed teachers over the next five years. Dimensions of the problem were spelled out by William G. Loomis, former chief of the vocational education training branch of USOE's Bureau of Educational Personnel Development, in a 1969 speech before the Third Annual National Vocational-Technical Teacher Education Seminar in Miami Beach.

"The latest statistics available in the Office of Education indicate that enrollments in public vocational education programs probably will reach 8,555,000 this year and will increase more than 100% to 17,250,000 by 1975. With a student-teacher ratio of about 50:1, that means we have a teaching force of some 171,400 today," Loomis said. "Assuming we can maintain the same ratio--which we all agree is too high--we'll need at least 345,000 teachers in 1975. That's 173,600 more than we now have, an average of 34,700 additional vocational education teachers each year over the next five years. We are actually producing only about 20,000 additional teachers per year."

Appropriation of $6.9 million for fiscal 1971 under the Education Professions Development Act (EPDA) represents a major attack on the problem. A large number of inservice and preservice programs are being operated with the funds. One program is providing the opportunity for 160 vocational educators to obtain advanced degrees at what has been termed "a network of regional West Points for vocational education." Universities involved in the project include the U. of Illinois, U. of Georgia, U. of North Carolina, Ohio State U., Rutgers U., Colorado State U., Oklahoma State U., U. of California-Los Angeles, and U. of Minnesota.

Certification requirements still represent a barrier to recruitment of Voc Ed personnel in many places. The problem was stated by Joseph J. Dixon, Chicago assistant superintendent for vocational education, in a 1970 address before the North Central Assn. of Colleges and Secondary Schools: "In many school districts, trade and industrial teachers in vocational schools are not required to have college degrees, but must have several years of work experience. In the not too distant future, the same standards may have to be instituted for teachers of trade and industrial subjects in general high schools where such courses are offered. Perhaps it is not too premature for the North Central Assn. and those responsible for the certification of teachers to begin a review of this problem with the objective of establishing prerequisities which are realistic in terms of the job to be done and the personnel needs of our school districts." Some changes are being made. As one example, Wisconsin has become the first state in the nation to certify counselors without requiring that they have a teaching background. In an experimental program, the U. of Wisconsin is training noneducation-degree college graduates as counselors. Backbone of the program is a one-year apprenticeship by each of the graduate-level trainees in a Wisconsin public school system.

EXEMPLARY PROJECTS

Perhaps holding the greatest promise for development of the guideposts for new directions in vocational education are the Exemplary Projects funded under Part D of the Vocational Education Amendments of 1968. Approximately $6 million has been awarded in fiscal 1971 grants for Exemplary Projects by USOE's Bureau of Adult, Vocational, and Technical Education (BAVTE). Another $7 million has been allocated to the education agencies of the states and territories to be used on exemplary projects selected at their discretion. Each of the projects approved directly at the national level--one for each state and territory--is funded for the first fiscal year at between $100,000 and $150,000. Each comes with a federal commitment for continued funding for three years, after which funds other than Part D grants must be located. When this report went to press, less than 40 of the proposed 56 nationally selected Exemplary Projects had been selected and awarded grants.

In accordance with USOE guidelines for the exemplary programs, each must contain five elements: (1) career development information at both elementary and secondary levels, (2) provision for a wide variety of work experience, cooperative education, and similar programs, (3) intensive skill training programs for students about to leave school without having had vocational education, (4) intensive occupational guidance and counseling during the last years of school, and (5) provision for continuation of the project without federal Exemplary Project funding after the three-year grant expires.

Reports submitted to BAVTE indicate a wide variety of uses has been made of the exemplary funds allocated to the states for distribution at their discretion, ranging from dividing up the allocation into many inservice workshops costing a few hundred dollars each, to lumping the allocation together with the national grant to create one large exemplary project at the state level. Purpose of the Exemplary Projects program is "to encourage and support the development of pilot and demonstration projects which are based on sound research findings, and which promise to improve educational practice," observes Albert J. Riendeau, chief of BAVTE. Although all of the approved projects contain the five elements detailed above, some place heavier stress on one or more, and several have rather innovative approaches to the different elements. Grouped into general categories by major areas of focus, here are some of the Exemplary Projects.

Career Development Programs

Many of the projects provide for total career development in regular school programs and include job information and orientation (elementary), oc-

cupational exploration (junior high), prevocational and work experience programs (senior high and postsecondary), and guidance, counseling, and placement.

Comprehensive Occupational Education Program for the Elementary and Secondary School, Huntsville School System, P.O. Box 128, Huntsville, Ala. 35804. An integrated program of occupational information, guidance, and training extending from elementary through postsecondary schools, this project also involves the Vocational Education Center of the area postsecondary vocational school and the Huntsville Model Cities program.

Career Education, Bridgeport Board of Education, 45 Lyon Terrace, Bridgeport, Conn. 06604. Providing occupational orientation at elementary and middle school levels, the program will also feature released time for vestibule training programs in industry for high schoolers, use of industrial arts and home economics labs for exploratory and prevocational experiences, and intensive job entry skill training to students about to leave school. The program is designed around career "clusters," and a "career ladder" approach.

Implementing a K-12 Career Development Program, District of Columbia Public Schools, 415 Twelfth St., N.W., Washington, D.C. 20004. Dovetailing with a five-year plan for decentralization of staff into instructional service units, this project will serve as a model for eventual redirection of the total District program to the career development concept. Extensive use of cooperative programs with business-industry-government is planned.

A Developmental Program of Occupational Education--Cobb County School System, 47 Waddell St., Marietta, Ga. 30060. A project to implement career development at all levels, this program's unique feature is the revision of the industrial arts curriculum for career development activities with stress on prevocational programs in human services, business, and distribution. A summer intensive job entry skill training program is included.

Area-Wide Project for Occupational Orientation, Exploration, Counseling, Job Training, and Job Placement for Elementary and Secondary Students, Pottawattamie County School System, Rt. 1, Council Bluffs, Iowa 51501. This project plans to employ a "pyramid" program design covering elementary through postsecondary schools within a single school system. An area media center will provide occupational information materials.

A "Universe Model" of Occupational Education for Pikeville, Ky., in Conjunction with the Pikeville Model Cities Program, Eastern Kentucky U., Begley Building, Richmond, Ky. 40475. Involving cooperation of Eastern Kentucky U., the Pikeville school system, and the Pikeville Model Cities Program, this K-12 career development project will place heavy stress on ties with community action groups and on development of the entire community.

Career Centered Curriculum for Vocational Complexes in Mississippi, Division of Vocational-Technical Education, Mississippi State Dept. of Education, Box 771, Jackson, Miss. 39205. Administered jointly by the state department and the Jones County Board of Education, this program is designed chiefly for secondary students. It will provide an occupational orientation program to 75% of the Jones County secondary students. Elementary tie-in comes through workshops, field trips, and seminars for students and teachers.

Washoe County School District Sequential Approach to Vocational Education, Research and Educational Planning Center, College of Education, U. of Nevada, Reno, Nev. 89507. A cooperative effort between the Washoe County Schools and the University's Center, the project seeks to provide "a smooth continuum of occupational orientation and instruction" from grade 5 through postsecondary. Using a cluster approach, health occupations will be used to develop a model program making extensive use of cooperative education.

World of Work, Contoocook Valley Regional School District, 3 Main St., Peterborough, N.H. 03458. This program provides World of Work opportunities at the pre-high school level, exploration of occupational interests and aptitudes in early high school years, and occupational education in the high school. Unique features include use of industrial representatives for instruction in home and community occupations courses, flexible modular scheduling, videotape recordings of local occupations and a Dial Access Retrieval System, and development of "self-contained portable learning modules" to expand junior high school occupational exploratory offerings.

Career Development--A Pre-School to Adult Model Program for the Hackensack, N.J., School District, Vocational Division, New Jersey Dept. of Education, 225 W. State St., Trenton, N.J. 08625. This project will operate through a Career Resource Center staffed with media, information, and school-community relations specialists. It will dovetail with many of the career development programs already in use in New Jersey. A major effort is effecting of an approach to blend academic and vocational programs.

Demonstration Programs of Vocational Education in South Carolina Region V Educational Services Center, P.O. Box 1069, Lancaster, S.C. 29720. Unique feature of this project is that different components will be developed in each of four school districts the first year, then pooled for use throughout the region in subsequent years. Components are interdisciplinary curriculum development; intensive training for job entry skills; guidance, placement, and follow-up; elementary-secondary vocational orientation; and work experience.

Project VIGOR, David Douglas School District, Portland, Oreg. 97236. This project aims for areawide implementation of a model Voc Ed system for a middle school, high school, and community college. Components include vocational exploration in grades 7-8, vocational guidance in grades 1-14, job family clusters for the vocational curriculum in grades 11-12, program articulation throughout grades 1-14, work experiences, and development of vocational relevance throughout the entire curriculum.

Career Guidance and Counseling

Occupational Information and Guidance Service Center, Hawaii Dept. of Education, 2327 Dole St., Honolulu, Hawaii 96822. An Occupational Information and Guidance Service Center is being established to serve the entire state. Components include development and distribution of an occupational information resource manual for school counselors, occupational guidance inservice workshops, and summer training programs to acquaint young people with occupations.

Maryland Career Development Project (K-Adult), Maryland Dept. of Education, 301 W. Preston St., Baltimore, Md. 21201. Elementary activities include work/task simulation, gaming brochures, use of parents as adult role models, and extensive field trips. The junior high level features team teaching of occupational exploratory units. Senior high has cooperative programs and intensive summer entry skill training in auto mechanics, printing, typing, data processing, and clothing construction. A computerized information system is used in junior high career exploration, and a statewide TV series aimed at grades 4-8 provides educational and career opportunity information to the community as well as to students.

A Program in Developmental Vocational Guidance (K-12) and Occupational Preparation for the Changing World of Work, North Dakota State Board for Vocational Education, State Office Bldg., 900 East Blvd., Bismarck, N. Dak. 58501. Stressing inservice training and curriculum workshops for teachers, counselors, and administrators, the project utilizes four area guidance counselor consultants for inservice instruction. It also provides occupational counseling to schools without such services. A unique feature is that disadvantaged and potential dropouts spend five weeks in a postsecondary vocational-technical institute to sample various training programs.

Selected Functional Components of a Vocational Education Counseling System for Urban Youth, Pittsburgh School District, 635 Ridge Ave., Pittsburgh, Pa. 15212. The project extends the present Pittsburgh School District's counseling system to schools at all levels in the Model Cities area, with emphasis on elementary school career orientation, cooperative work-experience programs for high school students, and graduate placement. A career resource center is available for junior high exploratory experiences. Fifteen new entry-level skill training programs have been added at Connelly High School in the Model Cities area.

Project SPAN--An Accelerated Project for a Systems Program Approaching Non-Unemployment of Vocational Students, Vocational Education Division, Memphis City Schools, Memphis, Tenn. 38104. Film materials and lab experiences are used for occupational orientation in grades K-6; inserts in the industrial arts and home economics courses provide occupational exploration in grades 7-9; and cooperative programs and a Vocational Guidance and Job Development Center are available to high school students. Unique features are the use of educational TV to deliver vocational orientation materials and a computerized approach to job placement.

Inner-City Projects

A Community Development Approach to Vocational and Leadership Training Using a Career Development Center, New Urban League of Greater Boston, Inc., 100 Warren St., Roxbury, Mass. 02119. Aimed at helping inner-city youth, this project employs several innovative techniques. Occupational orientation activities use modern curriculum packages (stories, filmstrips, videotapes) at all levels; in-school secondary students get work simulation, games, video presentations, and field trips; and out-of-school youth are given job simulation, training, and work experiences. Black exemplar role models are provided by the staff of a community center and other prominent persons.

Developmental Vocational Education Project, Cleveland Board of Education, 1380 E. Sixth St., Cleveland, Ohio 44114. Career development programs are being initiated at the elementary level; industrial arts are being restructured for junior highs; and senior high Voc Ed is being redesigned to give sampling experiences before the students enter a cooperative program. Career information centers have been established in school libraries. Ready access is available to various manpower training centers, the Woodland Job Center cooperative program with General Electric and General Motors, and Cleveland Extension High School. A unique feature is the use of work orientation teams consisting of teachers plus paraprofessional vocational technicians recruited from the Model Cities area.

An Exemplary Comprehensive Occupational Orientation Vocational Education Program for Selected Oklahoma Schools, Oklahoma Dept. of Vocational and Technical Education, 1515 W. Sixth Ave., Stillwater, Okla. 74074. Operating in a Tulsa inner-city high school and its feeder elementary and junior high schools, this project uses vocational orientation at pre-high school levels, 10th-grade cluster skill training, 11th- and 12th-grade cooperative programs for disadvantaged students, and intensive skill training for seniors and dropouts. Unique features include formation of special interest clubs with businessmen and craftsmen as volunteer sponsors, and a "big brother" system for senior high cooperative program students.

Rural-Oriented Projects

Pilot Occupational Education Programs for Small Rural and Suburban Arkansas Schools, Arkansas Board of Vocational Education, Little Rock, Ark. 72201. Comprehensive occupational education for grades 5-12 in small rural and suburban schools is the thrust of this project. An interdisciplinary cooperative program has been designed for high school seniors.

An Exemplary Program in Occupational Education in Typical Rural, Rural-Urban, and Urban School Settings, Kansas State Board of Education, 120 E. 10th St., Topeka, Kans. 66612. This project combines the national and state exemplary allocations and is designed to produce model programs suitable for use in rural, suburban, and urban schools in Kansas. Kansas State U. is helping with inservice training and curriculum development. Elementary occupational orientation is accomplished with field trips, resource persons, videotapes, and filmstrips. Middle exploratory experiences are provided through work-study programs, work simulation, mobile units for skill exposure in outlying schools, and supervised summer work experiences.

Implementation of a Comprehensive Occupational Education Program in a Rural School System, Wake County Schools, 2302 Noble Rd., Raleigh, N.C. 27608. Three rural schools--elementary, middle, and high school--are participating to demonstrate an articulated instructional program plus vocational orientation and guidance. An Occupational Resources Center is located in the middle school. Cooperative education stress is on provision of work-study experiences in metropolitan areas.

Dilenowisco Four I's Project, Dilenowisco Educational Cooperative, P.O. Box 1006, Wise, Va. 24293. A unique cooperative of five rural school dis-

tricts, the Four I's program intends to intervene in the lives of potential dropouts by introducing them to a broad range of occupational area investigations, and then involve them in work experiences. Current information on 200 occupations is presented via a multimedia system developed by the Appalachian Education Laboratory's vocational guidance project. On-the-job visitations and in-school simulated work experiences are being utilized.

Improving a Rural-Area School Program with Expanded Vocational Education Services by Utilizing Comprehensive Career Orientation and Exemplary Activities, Lincoln County Schools, P.O. Box 437, Hamlin, W. Va. 25523. Academic and Voc Ed are blended in grades 1-12 to supplement an expanded program planned for a county area vocational school opening in 1971. Intensive summer training is planned. A unique feature of the project is parent participation in all student conference and counseling sessions.

Cooperative Education Programs

Community College Vocational Cooperative Education, San Mateo Junior College District, 2040 Pioneer Court, San Mateo, Calif. 94402. Designed to use "the laboratories of business and industry" coordinated with community college programs, this project involving five community colleges is built entirely on cooperative education. Students can enroll in 40 different cooperative programs at the five schools under three plans: (1) an "alternate semester" arrangement whereby two paired students occupy one full-time training position by alternating semesters of full-time study with full-time work, (2) a "parallel" program in which the student attends school part time and has a part-time training job, and (3) an "evening college new careers" approach which allows the student to take evening courses related to his career goals while he works full time during the day. An interesting component is production of an occupational orientation program series for telecasting over the San Francisco Bay area's ETV station which features personal reports by the community college students on their work experiences.

An Occupational-Vocational Education Model for the State of Delaware, Delaware State Board for Vocational Education, State Dept. of Public Instruction, Dover, Del. 19901. Involving Kent Vocational Center and a local school district, this innovative project will be using an "Occupations Mall" beginning in the fall of 1971 to provide diversified occupations training stations for students. The mall, to include a restaurant, motel, flower shop, greenhouse, "Mr. Fix-It" shop, and service station, will provide occupational experiences in food service, hospitality jobs, nursery and landscape, handyman service, service station, general contracting, and general factory work. Kent Vocational Center is the site for job entry skill training for 11th and 12th graders on an extended-day basis.

Carolina School District Sequential Approach to Career Orientation and Preparation, Commonwealth Board for Vocational Education, P.O. Box 818, Hato Rey, Puerto Rico 00919. Designed to give young people both school and work experiences to help them adapt to Puerto Rico's rapid economic development, the project features "crash" programs to provide job entry skills. Unique components include a bilingual business occupations curriculum and a basic culinary arts program. Extensive use is made of cooperative programs.

Projects for Disadvantaged Youth

Operation Bridge--An Innovative, Comprehensive Vocational Education Program for Disadvantaged Youth, Aims Junior College District, Box 69, Greeley, Colo. 80631. This project utilizes new approaches to recruitment, guidance, and counseling for disadvantaged young people, most of whom are Mexican-Americans. Adults refer dropouts to the Aims College vocational counseling staff, which channels students into educational recycling programs. The project also features use of tutorial aides who are both educationally qualified and themselves minority group members. Also unique is a counseling technique to include the entire family of the disadvantaged student in counseling sessions. The counselors are also from the minority group.

An Exemplary Model for a Total Ecological Approach to Nongraded Vocational Programs in Separate Educational Centers, Florida Dept. of Education, Room 204, Knott Building, Tallahassee, Fla. 32304. The project focuses on 13- to 18-year-old disadvantaged and handicapped students. A special educational center is being established in each participating county to provide a nongraded occupationally oriented curriculum, related academic work, intensive vocational counseling, and a social motivation program. Programs are highly individualized for each student. Occupational specialists and social workers are available around-the-clock for consultation or to serve as advocates in home or juvenile court problem situations.

An Exemplary Program for Occupational Preparation, New Orleans Public Schools, 703 Carondelet St., New Orleans, La. 70130. Geared to economically disadvantaged youth, this project includes occupational materials for grades 1-12 and coordination with the Model Cities program. A unique component is job simulation experiences in school for clerical work and for health occupations where cooperative stations are difficult to obtain.

Diversified-Satellite Occupations Program, Granite School District, 340 E. 3545 South, Salt Lake City, Utah 84115. This project has four components: occupational guidance, work experience, bilingual-bicultural programs, and programs for the handicapped. Emphasis is on individualized instruction, using a few classrooms and labs for day programs and all district high schools for extended-day classes. Unique features of the project are the special bilingual-bicultural programs for Mexican-Americans, and an intensive potential dropout identification program at the 6th-grade level.

AUTHORIZATIONS VS. APPROPRIATIONS

One of the bitterest complaints of vocational educators is that the authorizations for funding spelled out in the Vocational Education Amendments of 1968 have never materialized in the form of appropriations from Congress. A further problem is that, even when appropriations have been substantial, they are sometimes trimmed back by the Bureau of the Budget through the simple technique of "non-release" of portions of the appropriations.

Here is a comparison of the authorizations and appropriations for various sections of the Vocational Education Amendments (dollar amounts in millions):

	Fiscal 1969		Fiscal 1970		Fiscal 1971	
	Auth.	Appro.	Auth.	Appro.	Auth.	Appro.
Permanent Programs	$355.0	$248.2	$565.0	$320.1	$675.0	$352.7
Consumer/Homemaking Education	-0-	-0-	25.0	17.5	35.0	21.3
Cooperative Vocational Education	20.0	-0-	35.0	14.0	50.0	18.5
Work-Study	35.0	-0-	35.0	5.0	45.0	5.5
Exemplary Programs	15.0	-0-	57.5	13.0	75.0	16.0
Demonstration Schools	25.0	-0-	30.0	-0-	35.0	-0-
State Programs	15.0	-0-	15.0	-0-	15.0	-0-
Construction Loan Aid	5.0	-0-	10.0	-0-	10.0	-0-
Disadvantaged Programs	40.0	-0-	40.0	20.0	50.0	20.0
Curriculum Development	7.0	-0-	10.0	.9	10.0	4.0
Personnel Development	25.0	-0-	35.0	5.75	40.0	6.9
Advisory Council[1]	.1	-0-	.15	.2	.15	.3
TOTALS	$542.1	$248.2	$857.65	$396.45	$1,040.15	$445.2

[1]Specific authorization for technical assistance only, to carry out functions of National Advisory Council.

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